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NATION'S
BUSINESS



Drafting
the
Box Car
by
Edward Hungerford

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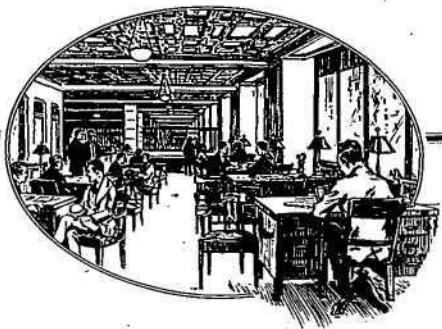
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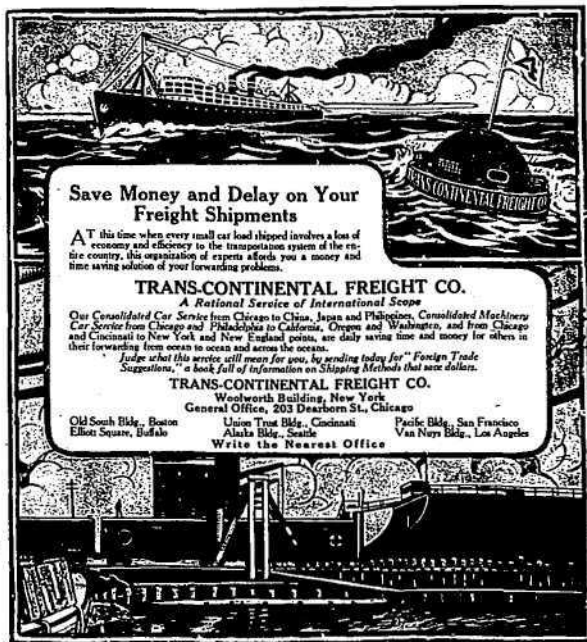
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WASHINGTON, SEPTEMBER, 1917

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Organized Production The Vital Factor Today



IN New York, at the busiest junction of streets, a spot where travel is most dense, stands an officer whose job it is to direct traffic so that there will be little congestion.

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As sure as increased production is the need of our country and her Allies, the only sure way to obtain it is through organized production. Certain it is also that the quickest way to secure organized production is through the services of those who have had great experience and do not have to experiment.

Prior to the war in an English plant devoted to the manufacture of marine engines, a group of workers turned out thirteen rivets in a certain time. To-day they produce seventy in the same time. That is but one example of what organized production is accomplishing in England and France to-day.

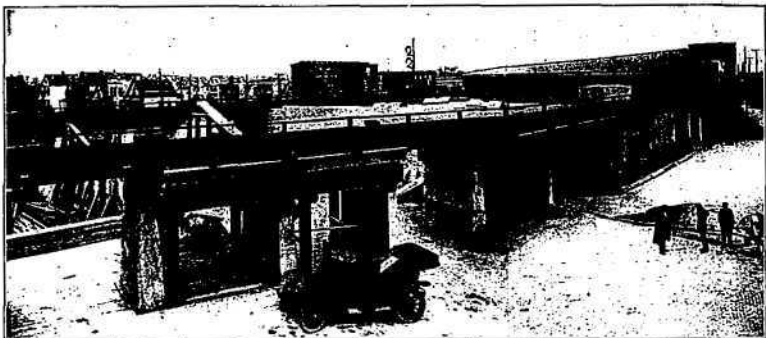
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The National Business

A Magazine for

Business Men

VOLUME 5, NUMBER 9

WASHINGTON, SEPTEMBER, 1917

Drafting the Box-Car How Our Roads Are Striving Grimly To Meet the Nation's Needs Despite the Scrapping of War-Wearied Equipment and the Difficulties of Quickly Replacing It

By EDWARD HUNGERFORD

DECORATIONS BY R. L. LAMBOIN



THE whole thing is bound up in the question of transportation. If we can't move socks, cartridges, salt and other necessities to where the troops can get them we might as well keep our fighting men at home.

While the urgent demands of our army, our navy and our allies multiply there is a vast and prosperous civilian population that must be taken care of.

Greatest of all our carriers is the once-humble box car. There are something more than a million of them clicking along the rails and resting on the sidings of the United States. But that isn't enough to go around under the present methods of handling them.

To meet this—the gravest traffic situation that ever faced the democratic world—experts of the railroads and the government have made rapid progress in perfecting plans whereby every one of these lumbering vehicles will be drawn into service and forced to do its fullest duty toward the land that yielded up its ores and timbers.

It is difficult to add to the freight-cars of the country, difficult even to maintain them in good repair. Therefore the solution of the problem, for the shipper as well as the railroad, lies principally in the bettered use of the existing equipment. And careful investigation has shown that the box-car is to-day far more susceptible to better loading than any of its fellows in the freight service.

Any shipper can tell of the outrageous delays to which they recently have been subjected; they can relate tales of repeated and sometimes vain appeals for cars in which to deliver their products. And I can match

those stories, one by one, then throw in more, for good measure. But that is what I am not going to do. I am going to try to be constructive.

A million box-cars is a whole lot; stretched end-to-end they would reach 10,000 miles—almost around the rim of the United States. And if improved methods can be found for loading and handling all those cars—methods that can be placed in effect without delay—it is going to render the big red boxes that you wish to come rolling up to your shipping-room doors less elusive. Isn't that so? Now let's study the conditions—and then the methods for their relief.

There are to-day, roughly speaking, 2,300,000 freight-cars in the service of the railroads of the United States. And there are not enough. The clamor of the shippers—grain shippers, meat shippers, fruit and vegetable shippers, war munitions shippers, shippers of every sort—is steady and increasing. The wonder is—when one comes to study the situation—that the railroads have been able to satisfy them at all.

This is not the time nor the place to review the unprecedented traffic that has been loaded upon our overland carriers within the past two years. That traffic is now known and understood. The really interesting story is how the railroads have succeeded in handling it. That story is recorded—simply and unerringly—in statistics. The frequent bulletins of the American Railway Association, both through its headquarters in New York and its special War Board at Washington tell it.

These bulletins unfold the story in their figures of car-shortage—"excess of unfilled car requisitions," your precise railroader prefers to call it. They show that the unfilled requisitions for freight-cars on the

railroads of the United States on May 1 last—soon after we had entered the great war and the roads had begun the patriotic work of speeding up their efficiency—amounted to 167,653 cars. On that same day there were, on various sidings or at points inaccessible to the immediate needs of the shippers, 19,026 idle or "surplus" cars. Deducting this figure from the one which has just gone before, we get 148,627 as the actual car-shortage on May 1.

This last and well-understood phrase is the most concise by which to term the showing. The objections that the railroads make to it is that it does not always fairly express the situation. For a shipper who is served by, say four railroads, and who may need, say twenty-five box-cars on a given day, will, if he is under great pressure, order twenty-five cars from each of the four roads—a hundred cars in all; yet he has use for but twenty-five. But the hundred is the figure that goes down on the records of the American Railway Association when all of these four roads have reported their unfilled requisitions to its headquarters. And the total in such instances, is, without a question, unfair to the railroads.

With this proviso and explanation, let us accept "car-shortage" however. Let us again find that the net shortage of all our roads on May 1 was 148,627 cars. But by July 1—in the face of a tremendous traffic for mid-summer, and as a direct result of the most efficient railroading this country has ever known—it had fallen to 105,782 cars. And by the first day of August it was 53,776 cars.

This is a really astonishing saving—the more astounding when one comes to realize that it was effected in the face of from fifteen to twenty per cent more freight traffic this summer than last year at the same time. And with less cars in which to handle it. For a

recent report of the Inter-State Commerce Commission shows that our railroads had on June 30, 1916, 2,298,263 freight-cars or just 29,299 less cars than they owned on June 30, 1915. In the same twelvemonth the number of locomotives had decreased from 63,099 to 61,562—an actual loss of 1,537 locomotives. The equipment figures for June 30, 1917, are not available as yet. But, in the judgment of many railroaders, a still further decrease will be shown.

The hard, hard traffic of the past two years has told on both cars and locomotives. And the oldest of them have been compelled to go to the scrap-heap. In the meantime they have not been replaced. The railroads have had their own financial troubles—that is a story in itself. And when they have succeeded in enticing money from investors whose heads are rather turned by war-bride opportunities, they have found the prices of new equipment all but prohibitive.

The Santa Fe recently contracted for a number of locomotives at approximately \$50,000 each and for a great flotilla of box-cars at \$2,300 apiece. These figures are about twice what they would be in ordinary times of peace. But the Santa Fe is a particularly prosperous and well-financed road. And it had to have the cars.

Nor is the average railroad much better off when it tries to save manufacturer's profits and build cars in its own shops. It then finds that it has to compete with the great, new, overgrown, munitions plants for both raw materials and labor. And its cost-sheets for these two factors—together covering almost the entire expense of building either locomotives and cars—will run close to a hundred per cent more than two or three years ago.

Despite these great obstacles, our railroads have placed orders for approximately 150,000 new freight cars since we entered the war—by far the greater part of them box-cars. In addition to this, the War Board has an approved plan for another 100,000 cars—to be financed and built by the government. Together these new cars would form an increase of a little more than ten per cent to the additional freight-car facilities.

The crux of the situation, however, lies in the fact that between the shortages of raw materials and of labor—to say nothing of the still more pressing military needs for both cars and locomotives on the part of our Allies—the railroads have not as yet made the necessary headway on the first 150,000 cars—which they are building at their own expense and upon their own responsibility. The cars are not coming out of the shops with due promptitude. And the need for them increases each week, each day, each hour.

The real solution of the entire problem lies in ignoring the relief possibilities of new cars—which in turn involve new locomotives and new trackage facilities for their efficient handling—but in making the fullest possible use of the existing rolling-stock. This has been the line upon

which the War Board, acting through its Commission on Car Service, has driven hardest during the past four months. And the success of its drive is shown in the car-shortage—reduced from 148,627 cars on May 1 to but 33,776 cars on August 1. An arithmetical extension of such a decrease would begin to show an actual car surplus by about the time this issue of THE NATION'S BUSINESS comes to its readers.

UNFORTUNATELY, however, wars do not progress along arithmetical lines but along geometrical lines. And by the time you read these pages the car-shortage will, in all probability, begin to mount high once more. Fall and winter are ever seasons of the heaviest traffic upon our railroads. And to them, it is to be added this year the vast traffic necessities of our growing military and naval arms. It is estimated that the cantonnements for the mobilization and training of our national army alone will require more than 100,000 cars of freight. Of these some 30,000 had moved up to the first day of August.

By late August or early September, however, a new factor annually shows itself as consequential in the railroad traffic situation. The food crops begin to move—not merely the perishable fruits and vegetables which must have special consideration and fast train movement—but the more solid comestibles, designed not alone for the immediate use of Americans, but for storage against the winter and for transportation to our armies and our allies overseas. These crop movements cannot be delayed. They must have both cars and expeditious movement. And so must the raw materials and the finished products of our munitions factories—not only ammunition but uniforms and motor-trucks and gun-carriages—only the Quartermaster-General knows the fullness of the list. And so must fuel move. And so must the troops.

Here then is the problem—the commercial interests of the United States must make better use of the limited quantity of freight-cars at their command.

How?

"Put 'em in the upper berths," advises a traffic expert, who has studied the question deeply.

He is referring to the campaign of the passenger departments of our railroads to induce travelers to overcome their prejudices against the upper berths of sleeping-cars as a wartime help, toward reducing the number of Pullmans. This would make possible the consolidation or even the elimination of through passenger trains.

The expert applies the same idea to the box-car and its unseen upper berths; the unused capacity of its upper portion. In ordinary times this part of the car has gone unfilled almost invariably.

The capacity of a modern box-car handling fertilizer is 110,000 pounds. But the minimum load with which it will be shipped forward—as provided by the tariffs filed by the railroads with the interstate Commerce Commission—is but 30,000 pounds.

Shippers, like railroaders and ministers and editors and authors and all the rest of us, are only human. Generally, too, they are in a hurry. So, in ordinary times, the fertilizer shipper will load his product up to the required minimum of 30,000 pounds, seal the car and hurry it forward. If he doesn't do that his competitor will.

These are not the ordinary times. It is a large part of the job of the railroads' War Board to make that clear to the shipper. These are war-times, and if in these times it is the job of the railroads to go on a war basis, so is it the job of their patrons to go upon a similar standard.

The Canadian Pacific, which has had a little longer time to study the task of operating a railroad under war conditions than its brethren in the United States, decided, early in the present year, to develop this fall a typical grain train of but twenty box-cars, as compared with a typical train of twenty-three cars carrying the same equivalent of load at the end of the flush and rather easy-going period, which ended in 1915. The average load of the box-car in the 1915 train was but 18.4 tons. The big Canadian road said that it would raise that figure this fall—at least five tons to the car. In other words, the 1917 model train of twenty cars will carry 468 tons as against 423 tons in its twenty-three car predecessor of but two years ago. Forty-five tons are gained and three cars are saved upon a single train.

Reports recently made public show how the wind is blowing. Within the past twelvemonth the Chicago & Eastern Illinois has increased its average carload from 25.5 tons to 31.4 tons; the Lake Erie & Western from 18.7 tons to 23.6 tons—and even such superlatively well operated roads as the Santa Fe and the Burlington have bettered their loading; in the one case from 19 tons to 21.3 tons and in the other from 23 tons to 29.4 tons. And in this last case, the Burlington by its improved loading had made a saving equal to 46,622 cars in a single month. With such concerted action by our railroads no wonder that the "car-shortage" report issued from the headquarters of the American Railway Association showed so rapid a decrease throughout the summer months.

THE Pennsylvania Railroad is not only one of the very greatest transportation systems in the United States but in the entire world. In the present crisis it has acted; definitely and promptly. It has given Washington freely of its trained personnel. Its president, Samuel Rea, is devoting his entire time at the capital as a member of the Executive Committee of the American Railway Association—the War Board, as it is now known. Its general superintendent of transportation, Charles M. Sheaffer, is the chairman and working head of the Car Service Commission of that self-same War Board. And it is the Pennsylvania which has evolved the "sailing day" plan, the first large and definite scheme of relief to the freight situation, on the part of any of our railroads.

Long before the war the Pennsylvania had begun the work of the education through bulletins of both its personnel and its patrons to a better appreciation of its own great problems. Soon after the constructive work had begun for the filling of the "upper berths" of the box-cars as a war-measure, it issued an illustrated bulletin, showing some possibilities along these lines. It depicted, for instance, a forty-foot "box" carrying the load of canned goods that had become typical in the days before the war. Three layers of boxes—some 550 cases of tomatoes, weighing



37,400 pounds in all—occupied this typical car. Yet alongside was another picture and this showed the same car in war service—filled almost to the roof with eight layers of boxes, carrying 1,500 cases of the tomatoes and weighing, all told, 102,000 pounds.

Similar illustrations show a fifty-ton car carrying 1,000 bags of sugar, instead of the 400 bags that are usually carried. If you ask a sugar shipper why this is so he will tell you that 400 bags happens to be the commercial selling-unit of that important commodity. And because 400 bags is the selling-unit, cars go half full and the Pennsylvania will spend \$5,000 to carry a hundred half-filled cars from New York to Pittsburgh. This figure takes no cognizance of the overhead and the costs of wear and tear upon the equipment and right-of-way. The same quantity of sugar, traveling in half the number of well-filled cars would represent for the same distance but half the operating cost.

A railroad has every right, moral and legal, to make money-savings for itself, when those savings do not mean loss or inconvenience to its patrons. From this viewpoint alone the Pennsylvania is justified in the issuance of its educational bulletins. And from the larger viewpoint of the release of the box-cars for the relief of the situation, the bulletins, themselves, represent a distinct National service.

THE "sailing-day" has, as I have already intimated, formed the first definite operating plan toward saving any large number of box-cars and releasing them for service elsewhere. It was made public in the rough by the Pennsylvania in a preliminary statement issued early in July. But even its adoption for a trial in a single large city—Philadelphia—has proved a giant task. Not only the average and typical but the unusual business of the eighteen freight stations in that city have had to be studied and analyzed; but the car-saving schedule built upon these results has, in turn, been the result of extended study. The road was ready early in September to give the idea its first real test.

Briefly stated, the "sailing-day" plan is like the steamship schedule idea, from which it takes its colloquial name. Under normal traffic conditions the Pennsylvania might have started a merchandise freight-car for less-than-carload lots out of the three great manufacturing sections of Philadelphia each business evening for—let us say Dayton, Ohio, as a fair instance. In larger cities—like Chicago or St. Louis there might have been more—perhaps one set at the beginning of the day at each of the eighteen receiving stations in Philadelphia. The Dayton race is more typical of the new plan.

In other days the Dayton freight from the various city receiving stations would be consolidated as far as possible at the by-transfer station just west of Philadelphia—where the through merchandise or preference trains for the West are made up and sent out each evening. If there was enough freight from all the stations to make the minimum loading on any given day a car would be sent through to Dayton. Perhaps, on the other hand, there would be enough to fill one car and not quite enough to make a second car. In either of these cases there were two things that could be done—either the freight could be held over at the Philadelphia transfer or else it could move forward in some general merchandise car and be transferred—and possibly delayed—farther out upon the line.

This system—common practically to all the railroads of the country—if not actually bad, is at least very unsatisfactory. It possesses

elements of uncertainty and delay—to say nothing of the possibilities of breakage through repeated transfers. Through the "sailing-day" plan those elements and possibilities are removed, almost entirely.

Under that scheme a merchandise car may leave South Philadelphia for Dayton only twice or three times a week, instead of daily as formerly, but in every case it will go through—no matter how great or how small its load.

It is freight service reduced to the clock-like certainty of passenger service. The Congressional Limited or the St. Louis will not leave Broad Street Station more regularly than the Dayton I.C.I. car leaves the big freight terminals at Broad and Washington or at Thirtieth and Market. Its departing time will be fixed, not only on specific days but at definite hours on these specific days.

Philadelphia—even more than most of our other metropolitan cities in America—is a sprawling community covering many square miles. Its manufacturing and distributing establishments are fairly evenly distributed over all this great territory. The Pennsylvania, in making the inaugural schedules for the "sailing-days," has had to bear in mind the absolute necessity of making them fair to all its patrons. A hat manufacturer down in the old Southward section along the Delaware river below the city, must be kept on a parity for his freight transportation with his competitor in Frankford or in Germantown or in West Philadelphia. In these days when discrimination has become a deadly railroad sin and a crime punishable at law, anything else would not be legal.

To meet this last necessity the Pennsylvania has taken its great headquarters city and has cut it into six zones—nearly equal in size and in importance. Each holds three of its freight receiving stations. Now the loading and despatching of the Dayton merchandise cars become an even more systematic affair. From Zone 1—which includes the receiving stations at Broad and Washington, at Federal and at Thirtieth and Market streets—let us say that a Dayton car will be despatched on Mondays and Thursdays; from Zone 2—which includes the stations at Dock street, at Walnut street and at Vine street—it will depart on Tuesdays and Fridays; and from Zone 3—which includes three other receiving stations—it will leave on Wednesdays and on Saturdays.

A SIMILAR system for the other three zones in Philadelphia and one begins to see an even despatching of the Dayton cars—particularly when one comes to consider that the zones have been planned after a careful study of the street mileages and conditions between the various receiving stations but also between them and the principal manufacturing and distributing houses of the city.

Perhaps the cars are destined for a smaller city than Dayton. Instead of a service that contemplates the despatching of two merchandise cars a night each coming from a

rotation of three zones, there may be but one car—which will leave some entirely different zone each business day of the week. Only that zone and the day are to be carefully scheduled—and the schedules furnished the shipping room of every commercial concern

in Philadelphia. The concern, familiarizing itself with the "sailing days" to all the points to which it is in the habit of shipping, will, by a slight measure of accommodation and planning, actually enjoy an expedited freight service to every point which it reaches over the lines of the Pennsylvania—a service actually superior to any that it has had before.

"This is a purely cooperative measure—nothing more or less," says H. C. Bixler, superintendent of stations and transfers of the road, who is inaugurating it at Philadelphia. "We are a transportation company and as such it is our job to encourage and build up traffic, not to repel it. So the plan becomes cooperative—its success largely dependent on the helpful spirit of the shippers—big and little. We have little doubt that such a spirit will be shown. Putting the thing solely upon

basis of business efficiency the shipper will find his own interests best served in the long run by holding over freight for a day, or even two days—and then having it go through on fast schedules—and without delay."

ALL of which sounds logical and fair. Even if it did sound the least bit illogical and the least trifle unfair, how about a plan which saves a hundred box-cars a day in the operation of a single railroad out of a single American city? Such a plan in a business week would release 600 box-cars to the hungry new war industries that have sprung up in and around Philadelphia.

In a year this would represent over 30,000 cars—a carrying capacity hardly to be ignored. And if this can be done in Philadelphia—an actual saving of twenty-five per cent of merchandise cars at a single effort—what can be done when all the roads put this very plan into effect? The Pennsylvania's plan is inspiring, as well as practical. And if it meets the success which is anticipated for it at Philadelphia it will be extended rapidly to the other cities of its wide-spread system.

The plan already has its refinements. As a part of it, it is proposed to better the loading of the "ferry" cars, which handle I.C.I. merchandise freight between manufacturing and other industrial plants and the nearest receiving station or transfer-house. It is being tactfully hinted to shippers that these cars be so loaded as to save both time and labor at the transfer point. As the simplest solution of the problem it is suggested that the west-bound freight be placed at one end of the car and the east-bound at the other. A still better loading would have the freight loaded in station order—particularly in the case of those stations upon the nearby lines of the Pennsylvania itself. (Continued on page 35)



recent report of the Interstate Commerce Commission shows that our railroads had on June 30, 1916, 3,285,293 freight cars or just 29,299 less cars than they owned on June 30, 1915. In the same twelve-month the number of locomotives had decreased from 65,009 to 63,862—an actual loss of 1,237 locomotives. The equipment figures for June 30, 1917, are not available as yet. But, in the judgment of many railroaders, a still further decrease will be shown.

The hard, hard traffic of the past two years has told on both cars and locomotives. And the oldest of them have been compelled to go to the scrap-heap. In the meantime they have not been replaced. The railroads have had their own financial troubles—that is a story in itself. And when they have succeeded in raising money from investors whose heads are rather turned by war-birdie opportunities, they have found the prices of new equipment all but prohibitive.

The Santa Fe recently contracted for a number of locomotives at approximately \$50,000 each and for a great flotilla of boxcars at \$2,300 apiece. These figures are about twice what they would be in ordinary times of peace. But the Santa Fe is a particularly prosperous and well-financed road. And it had to have the cars.

Nor is the average railroad much better off when it tries to save manufacturers' profits and build cars in its own shops. It then finds that it has to compete with the great, new, overgrown, munitions plants for both raw materials and labor. And its cost-sheets for these two factors—together covering almost the entire expense of building either locomotives and cars—will run close to a hundred per cent more than two or three years ago.

Despite these great obstacles, our railroads have played orders for approximately 150,000 new freight cars since we entered the war—by far the greater part of them boxcars. In addition to this, the War Board has an approved plan for another 100,000 cars—to be financed and built by the government. Together these new cars would form an increase of a little more than ten per cent to the additional freight-car facilities.

The crux of the situation, however, lies in the fact that between the shortages of raw materials and of labor—to say nothing of the still more pressing military needs for both cars and locomotives on the part of our Allies—the railroads have not as yet made the necessary headway on the first 150,000 cars—which they are building at their own expense and upon their own responsibility. The cars are not coming out of the shops with due promptitude. And the need for them increases each week, each hour.

The real solution of the entire problem lies in ignoring the relief possibilities of new cars—which in turn involve new locomotives and new trackage facilities for their efficient handling—but in making the fullest possible use of the existing rolling-stock. This has been the line upon

which the War Board, acting through its Commission on Car Service, has driven hardest during the past four months. And the success of its drive is shown in the car-shortage—reduced from 148,027 cars on May 1 to but 33,776 cars on August 1. An arithmetical extension of such a decrease would begin to show an actual car surplus by about the time this issue of THE NATION'S BUSINESS comes to its readers.

UNFORTUNATELY, however, wars do not progress along arithmetical lines but along geometrical lines. And by the time you read these pages the car-shortage will, in all probability, begin to mount high once more. Fall and winter are ever seasons of the heaviest traffic upon our railroads. And to them, is to be added this year the vast traffic necessities of our growing military and naval arms. It is estimated that the contingents for the mobilization and training of our national army alone will require more than 100,000 cars of freight. Of these some 30,000 had moved up to the first day of August.

By late August or early September, however, a new factor annually shows itself as consequential in the railroad traffic situation. The food crops begin to move—not merely the perishable fruits and vegetables which must have special consideration and fast train movement—but the more solid comestibles, designed not alone for the immediate use of Americans, but for storage against the winter and for transportation to our armies and our allies overseas. These crop movements cannot be handled by the railroads alone. They must have both cars and expeditions movement. And so much the raw materials and the finished products of our munitions factories—not only ammunition but uniforms and motor-trucks and gun-carriages—only the Quartermaster-General knows the fullness of the list. And so must food move. And so must the troops.

Here then is the problem—the commercial interests of the United States must make better use of the limited quantity of freight-cars at their command. How?

"Put 'em in the upper berths," advises a traffic expert, who has studied the question deeply.

He is referring to the campaign of the passenger departments of our railroads to induce travelers to overcome their prejudices against the upper berths of sleeping-cars as a war-time help, toward reducing the number of Pullmans. This would make possible the consolidation or even the elimination of through passenger trains.

The expert applies the same idea to the box-car and its unseen upper berths: the unused capacity of its upper portion. In ordinary times this part of the car has gone unfilled almost invariably. The capacity of a modern box-car handling fertilizer is 110,000 pounds. But the minimum load with which it will be shipped forward—as provided by the tariffs filed by the railroads with the interstate Commerce Commission—is but 30,000 pounds.

Shippers, like railroaders and ministers and editors and authors and all the rest of us, are only human. Generally, too, they are in a hurry. So, in ordinary times, the fertilizer shipper will load his product up to the required minimum of 30,000 pounds, seal the car and hurry it forward. If he doesn't do that his competitor will.

These are not the ordinary times. It is a large part of the job of the railroads' War Board to make that clear to the shipper. These are war-times, and if in these times it is the job of the railroads to go on a war basis, so is it the job of their patrons to go upon a similar standard.

The Canadian Pacific, which has had a little longer time to study the task of operating a railroad under war conditions than its brethren in the United States, decided, early in the present year, to develop this fall a typical grain train of but twenty box-cars, as compared with a typical train of twenty-three cars carrying the same equivalent of load at the end of the flesh and rather easy-going period which ended in 1915. The average load of the box-car in the 1915 train was but 18.4 tons. The big Canadian road said that it would raise that figure this fall—at least five tons to the car. In other words, the 1917 model train of twenty cars will carry 468 tons as against 423 tons in its twenty-three car predecessor of but two years ago. Forty-five tons are gained and three cars are saved upon a single train.

Reports recently made public show how the wind is blowing. Within the past twelve-month the Chicago & Eastern Illinois has increased its average yardload from 25.5 tons to 31.4 tons; the Lake Erie & Western from 18.7 tons to 23.6 tons—and even such superlatively well operated roads as the Santa Fe and the Burlington have bettered their loading: in the one case from 19 tons to 21.3 tons and in the other from 23 tons to 29.4 tons. And in this last case, the Burlington by its improved loading had made a saving equal to 46,622 cars in a single month. With such concerted action by our railroads no wonder that the "car-shortage" report issued from the headquarters of the American Railway Association showed so rapid a decrease throughout the summer months.

THE Pennsylvania Railroad is not only one of the very greatest transportation systems in the United States but in the entire world. In the present crisis it has acted, definitely and promptly. It has given Washington freely of its trained personnel. Its president, Samuel Rea, is devoting his entire time to the capital as a member of the Executive Committee of the American Railway Association—the War Board, as it is now known. Its general superintendent of transportation, Charles M. Sheaffer, is the chairman and working head of the Car Service Commission of that self-same War Board. And it is the Pennsylvania which has evolved the "sailing day" plan, the first large and definite scheme of relief to the freight situation, on the part of any of our railroads.

Long before the war the Pennsylvania had begun the work of the education through bulletins of both its personnel and its patrons to a better appreciation of its own great problems. Soon after the constructive work had begun for the filling of the "upper berths" of the box-cars as a war measure, it issued an illustrated bulletin, showing some possibilities along these lines. It depicted, for instance, a forty-foot "box" carrying the load of canned goods that had become typical in the days before the war. Three layers of boxes—some 550 cases of tomatoes, weighing

37,000 pounds in all—occupied this typical car. Yet alongside was another picture and this showed the same car in war service—filled almost to the roof with eight layers of boxes, carrying 1,500 cases of the tomatoes and weighing, all told, 102,000 pounds.

Similar illustrations show a fifty-ton car carrying 1,000 bags of sugar, instead of the 400 bags that are usually carried. If you ask a sugar shipper why this is so he will tell you that 400 bags happens to be the commercial sailing-unit of that important commodity. And because 400 bags is the sailing-unit, cars go half full and the Pennsylvania will spend \$3,000 to carry a hundred half-filled cars from New York to Pittsburgh. This figure takes no cognizance of the overhead and the costs of wear and tear upon the equipment and right-of-way. The same quantity of sugar, traveling in half the number of well-filled cars would represent for the same distance but half the operating cost.

A railroad has every right, moral and legal, to make money-savings for itself, when those savings do not mean loss or inconvenience to its patrons. From this viewpoint alone the Pennsylvania is justified in the issuance of its educational bulletins. And from the larger viewpoint of the release of the bus-cars for the relief of the situation, the bulletins, themselves, represent a distinct National service.

THE "sailing-day" has, as I have already intimated, formed the first definite operating plan toward saving any large number of box-cars and releasing them for service elsewhere. It was made public in the rough by the Pennsylvania in a preliminary statement issued early in July. But even its adoption for a trial in a single large city—Philadelphia—has proved a giant task. Not only the average and typical but the unusual business of its eighteen freight stations in that city have had to be studied and analyzed; but the car-sailing schedule built upon these results has, in turn, been the result of extended study. The road was ready early in September to give the idea its first real test.

Briefly stated, the "sailing-day" plan is like the steamship schedule idea, from which it takes its colloquial name. Under normal traffic conditions the Pennsylvania might have started a merchandise freight-car for less-than-carload lots out of the three great manufacturing sections of Philadelphia each business evening for—let us say Dayton, Ohio, as a fair instance. In larger cities—like Chicago or St. Louis there might have been more—perhaps one set at the beginning of the day at each of the eighteen receiving stations in Philadelphia. The Dayton case is more typical of the new plan.

In other days the Dayton freight from the various city receiving stations would be consolidated as far as possible at the by-transfer station just west of Philadelphia—where the through merchandise or preference trains for the West are made up and sent out each evening. If there was enough freight from all the stations to make the minimum loading on any given day a car would be sent through to Dayton. Perhaps, on the other hand, there would be enough to fill one car and not quite enough to make a second car. In either of these cases there were two things that could be done—either the freight could be held over at the Philadelphia transfer or else it could move forward in some general merchandise car and be transferred—and possibly delayed—farther out upon the line.

This system—common practically to all the railroads of the country—if not actually bad, is at least very unsatisfactory. It possesses

elements of uncertainty and delay—to say nothing of the possibilities of breakage through repeated transfers. Through the "sailing-day" plan those elements and possibilities are removed, almost entirely.

Under that scheme a merchandise car may leave South Philadelphia for Dayton only twice or three times a week, instead of daily as formerly, but in every case it will go through—no matter how great or how small its load.

It is freight service reduced to the clock-like certainty of passenger service. The Congressional Limited or the St. Louis will not leave Broad Street Station more regularly than the Dayton I.C.I. car leaves the big freight terminals at Broad and Washington or at Thirtieth and Market. Its departing time will be fixed, not only on specific days but at definite hours on these specific days.

Philadelphia—even more than most of our other metropolitan cities in America—is a sprawling community covering many square miles. Its manufacturing and distributing establishments are fairly evenly distributed over all this great territory. The Pennsylvania, in making the inaugural schedules for the "sailing-days" has had to bear in mind the absolute necessity of making them fair to all its patrons. It has manufacturers down in the old Southwark section along the Delaware river below the city, must be kept on a parity for its freight transportation with his competitor in Frankford or in Germantown or in West Philadelphia. In these days when discrimination has become a deadly railroad sin and a crime punishable at law, anything else would not be legal.

To meet this last necessity the Pennsylvania has taken its great headquarters city and has cut it into six zones—nearly equal in size and in importance. Each holds three of its freight receiving stations. Now the loading and despatching of the Dayton merchandise cars become an even more systematic affair. From Zone 1—which includes the receiving stations at Broad and Washington, at Federal and at Thirtieth and Market streets—let us say that a Dayton car will be despatched on Mondays and Thursdays; from Zone 2—which includes the stations at Dock street, at Walnut street and at Vine street—it will depart on Tuesdays and Fridays; and from Zone 3—which includes three other receiving stations—it will leave on Wednesdays and on Saturdays.

A SIMILAR system for the other three zones in Philadelphia and one begins to see an even despatching of the Dayton cars—particularly when one comes to consider that the zones have been planned after a careful study of the street mileages and conditions between the various receiving stations but also between them and the principal manufacturing and distributing houses of the city. Perhaps the cars are destined for a smaller city than Dayton. Instead of a service that contemplates the despatching of two merchandise cars a night each coming from a

rotation of three zones, there may be but one car—which will leave some entirely different zone each business day of the week. Only that zone and the day are to be carefully scheduled—and the schedules furnished the shipping room of every commercial concern in Philadelphia.

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The New Secretary: Trained to His Task, Precise and Sure in His Methods, Rejecting the Tactics of the Mere Boomer, He Has Given Better Standing and Added Power to His Commercial Organization

By GEORGE FARLEY

TO-DAY every town knows that its commercial organization can be made an institution of incalculable worth to the community. And to the nation. These associations supply the leadership necessary to the success of any civic movement. Their achievements, in fact, frequently measure the achievements of the community; and the skill of the secretary, oftener than not, is the limit of the capacity of his organization.

Thus the education of these secretaries is a work of national significance.

We used to act as if each man's job was of real importance to himself only. If one wished to increase his skill as a banker or a farmer or a shipbuilder, so much the better—for him. We would help. Philanthropy we called that. But if he didn't wish to be uplifted, we shrugged our shoulders and passed by.

Our point of view, however, has shifted. Now we consider other men's jobs in the light of what they mean to us and to the public generally. We want the banker to be 100 per cent wise and efficient, else he may bring financial calamity upon the people. We want the farmer to know the latest word in agriculture, because otherwise the world may go hungry. We want the shipbuilder to be an expert at his trade, knowing the country's safety may depend upon his efforts. We set up schools to teach him to become a better mechanic. National insurance we call that.

The work of the individual, for all this, has not acquired new importance. It is merely that the public sees clearly an aspect of it which it was formerly prone to lose sight of. As a result, many men make more serious preparation for their work than ever before.

Public opinion has declared emphatically for vocational education. From that to proper training for commercial organization secretaries the transition will be easy and logical, once the country comes to a true appreciation of the significance of their labors.

THE education of secretaries has progressed so far that their calling is now seriously referred to as a profession. It has given us a new type of secretary. He is engaged primarily with questions touching the commerce and industry of his town. Incidentally he is making it a better town in which to live. In this he does not differ materially from his predecessor; but unless his predecessor was one of the few men who were ahead of their times, their methods are as far apart as the poles.

The new secretary knows the needs of his community. He adapts scientific means to the improvement of the town and its commerce. He is as precise and sure as his predecessor was haphazard and uncertain. To him mere motion is not attainment. He is too wise to depend solely on his own imagination and experience and too efficient not to avail himself of the experience of others.

This type of secretary knows the value of printer's ink, but he is not a mere publicity monger. Everyone with a message for the public good has his ear, yet he is slow to back new projects before they have proved their

worth. His vision is not circumscribed by the interests of his own town; he recognizes that the interests of the country are greater.

He has given business a better standing in the community and in the ante-rooms of Congress and state legislatures. Members of law-making bodies were inclined to take recommendations of commercial organizations none too seriously, guessing that too often they were merely the opinion of an uninformed and annoyingly active secretary. To-day, the secretary who has kept step with the new ideas conducts a referendum vote in his organization, he encourages its members to study public questions, and when he sets forth their views, they command respect.

THE ideal organization (and that means the organization with the ideal secretary) does not shoot at random. When its support is sought for a new project, it determines, through a competent committee, whether or not there is a real need which is not being met by any other agency, and whether the new project will meet it adequately and economically.

When a factory knocks at the door of such a town, the chamber of commerce will make an industrial survey to ascertain whether or not the town needs or can support an industry of the kind, whether raw material is available, whether there is a market for the output, whether the town has unemployed persons who will find work in the proposed plant, whether houses will have to be built for the new families which the enterprise will add to the town—whether, in fact, the factory will be a fit or a misfit. The misfits are not encouraged.

On the other hand, the town may need new industries, and none may offer. The chamber, through its secretary, goes gunning, but it does so with discrimination. It establishes, through a careful survey, just what is wanted, and it shoots straight for the mark.

What would it mean to the country if such a policy were in general operation? It would mean that the industries of the nation would be located where they would be enabled to operate with the greatest efficiency and economy. It would mean that every advantage of natural resources—raw materials and fuel had been seized upon, that markets had been studied, transportation considered, labor supply taken into account. Our industries would be, so far as location is concerned, in the best position possible to meet the needs of the people, in peace and in war.

THE new secretary and his organization are engaged, incidentally, as already mentioned, in making better towns, socially and educationally. The connection between that fact and the upbuilding of the agricultural districts, and the significance of this chamber of commerce activity in the solution of a great national problem, is apparent.

The government has called upon farmers to double, if possible, their usual output, and it is safe to say that the greatest returns will come from the farms that are neighbors to the "good" towns throughout the country. If a

census could be taken, it would probably be found that the most progressive farmers and the best kept farms surround towns of that class. Many abandoned and neglected farms that ought to-day to be helping to feed us and our allies have come to their present low condition because the nearby towns did not make life attractive on them. The commercial organization secretary whose education has progressed along the new lines knows all of this, and has an eye for the agricultural sections.

The above are some of the characteristics of the new type of secretary, and some of the reasons why the country at large ought to be interested in the efforts of these men to reduce their work to the exactness of a science.

A DECISIVE factor in this educational movement, the National Association of Commercial Organization Secretaries, will hold its annual meeting in Chicago, September 24 and 26. Its program will be:

"Membership Development and Maintenance"—J. R. Babcock, Dallas, Texas. Leader of discussion, Clarence A. Cotton, Providence, R. I. Group meetings on "Membership Campaigns"—Chairman, T. J. Appleyard, Jr., Pinna, Ohio.

"The Proper Place of Industrial Development in the Work of a Commercial Organization"—Ralph H. Faxon, Des Moines, Iowa. Leader of discussion, George H. Mosser, Newark, Ohio. Group meeting on "Factors in Securing Factories"—Chairman, Dennis F. Howe, Utica, N. Y.

"The Small Town Commercial Organization: What Can It Do?"—Joseph F. Leopold, Athens, Ohio. Leaders of discussion, Charles E. Coyne, Holyoke, Mass., Raymond B. Gibbs, Lockport, N. Y.; G. W. Lemon, Johnstown, Pa.

"Organization Service for the Retailer"—Lee H. Bierce, Grand Rapids, Mich. Leaders of discussion, William A. Seale, Rome, N. Y.; Louis E. Deuble, Canton, Ohio.

Group meeting on "How to Serve the Retail Merchant."

"Transportation Problems: How Shall They be Dealt With?"—D. P. Chindolph, Rochester, N. Y. Leaders of discussion, N. B. Kelly, Philadelphia, Pa.; W. E. Holmes, Sioux City, Iowa; J. David Larson, Salt Lake City, Utah.

Group meetings on "Relation with the Railroads"—Chairman, Walter S. Whitten, Lincoln, Nebraska.

"Trade Extension Trips: Methods and Results"—Leroy M. Gibbs, Oklahoma City, Okla. Leaders of discussion, Robert H. Manley, Omaha, Nebraska; Irving C. Norwood, Davenport, Iowa.

"The Secretary's Relations with the Department of Commerce"—Hon. William C. Redfield, Secretary of Commerce.

"Self-Education of the Secretary"—Arthur J. Dodge, Denver, Colo. Leaders of discussion, Paul T. Cherrington, Boston, Mass.; John Wood, Roanoke, Va.; Walter G. Cooper, Atlanta, Ga. "Stimulating the Organization Machinery"—John M. Tuther, Memphis, Tenn.

Group meetings not allied to program subjects: "Securing and Entertaining Conventions," Chairman, J. Lee Barrett, Detroit, Mich. "How Far Does the Modern Commercial Organization Represent the People of the Community?" Chairman, Vincent S. Stevens, Akron, Ohio. "Budgets and Organization Expenditures," Chairman, F. G. Saxton, Toledo, Ohio. "Agriculture and Commercial Cooperation."

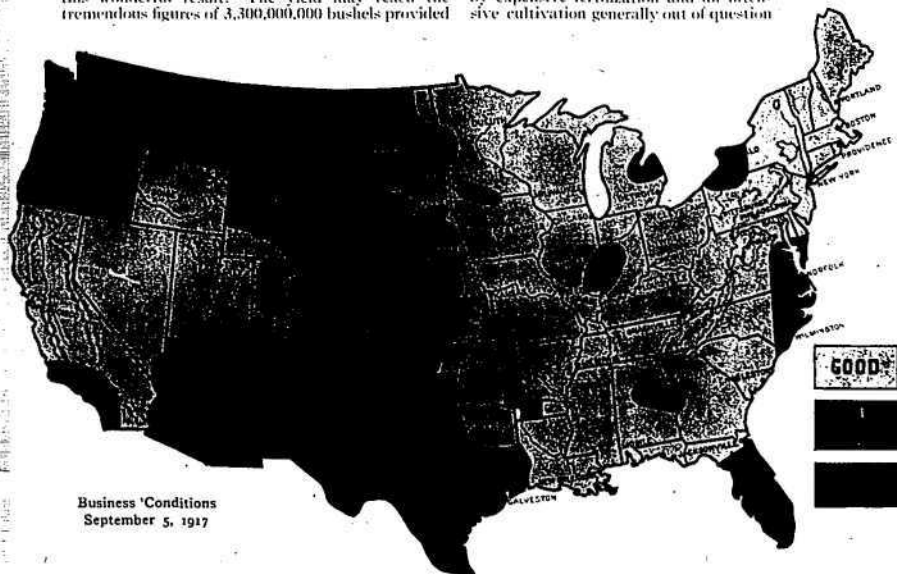
We "Dig In"—Our Trenching Tool, the Plow!

By Archer Wall Douglas

IT seems an inalienable characteristic of human nature to be impressed by size and magnitude rather than all other qualities, forgetful meanwhile of the part that Little Drops of Water, Little Grains of Sand play in the structure of the Universe. So in considering the immensity of the present corn crop we lose sight of the many factors, some seemingly insignificant, which have brought about this wonderful result. The yield may reach the tremendous figures of 3,300,000,000 bushels provided

the fields, keeping them free from weeds in times of too much rain, and unceasingly practicing dry-farming methods when rains were not, and thus conserving in the soil the moisture needed to carry the growing corn till precipitation came.

We have heard in the past much babble about the superiority of the European farmer, because of greater production per acre. It is a result arrived at by expensive fertilization and an intensive cultivation generally out of question



Business Conditions
September 5, 1917

there be not an untimely frost to partly blight this unequalled prospect. Corn is everywhere late and in more northern latitudes needs about thirty days more to mature fully. Fortunately the experience of the past is that damage to corn by early frost is usually local, and rarely makes much difference in the total yield.

Throughout the Central West the early planted corn is from ten to fourteen feet and there are from two to three ears, well filled on a large proportion of the stalks. It is this unchronicled fact which means an abundant yield per acre, which is the most important factor in great harvests. This in turn is due to the intelligence and untiring industry of the American farmer, who has responded to a world-wide Macedonian cry for help by producing the greatest food crops ever grown in this country. Sufficient rainfall was only one phase of this accomplishment, for all during the growing season the farmer was in

in this country, because it necessitates an amount of man power which we have not, and would not employ after such fashion if we had. The problem with us is a bigger and broader one, and calls for the employment of labor saving machinery on a great scale. It is an exact analogy to that of manufacturing, for no one questions the infinite superiority of the skilled American mechanic over the mechanic of any other nation. So the American farmer has demonstrated that the unit of production in agriculture, as in manufacturing, is production per man (and not per acre), and in this he excels all other agriculturists.

Intensive farming has its merits, but likewise its limitations, especially when applied to the great staple products. Fortunately Wisdom is justified of her Children, and at a time when agriculture is coming into her own, it is well that we have some knowledge of the real problems of the American farmer and how steadily he is surmounting them.

SUCH changes as have come in the Condition Map from last month are all progressive, and mostly from "Fair" to "Good" as will be noted.

Threshing returns from both winter and spring wheat only increase former estimates and make possible a total yield of 725,000,000 bushels of unusually high quality. Farmers are holding their wheat quite generally, despite the prevailing high prices. This means a stimulus to business when they come into the market later on.

In the semi-arid regions of the West dry-farming, because of scanty rainfall, has one of those "off years", which are an unescapable part of the game in this industry. Recent precipitation in many such sections has helped much. Irrigation, on the contrary, had abundant water and consequent great yields.

It has been too dry for cotton in central and southern Texas, with resulting deterioration. Like many other plants, cotton has a fashion in dry weather of sending down long deep roots in search of moisture. So it held on grimly in much of Texas when corn shriveled and died. In portions of the Central South it is too wet for cotton, and reports of Boll Weevil damage are consequently increasing. As a whole, however, the condition is distinctly better, and it looks now like a crop of 12,500,000 bales.

Fall plowing is very general and is being done under most favorable soil conditions. The outlook is for a great acreage of winter wheat next year.

Despite the enormous demand both at home and abroad for meat, the number of cattle and hogs in this country is increasing, although sheep continue to fall off in numbers. The increase in cattle is especially notable in the South, where packing plants are being

built to take care of the surplus product. Pastures and gardens have been greatly benefited by recent rains, though it is still much too dry in the grazing ranges of west Texas and eastern New Mexico. Most of Montana, northern Idaho and western Washington still need rain badly. The recent general rains in the Great Plains States have done much to solve the all-important question—to the farmer—of feed for livestock by reviving pastures and making possible the planting of many kinds of forage crops. Cheap and plentiful feed for livestock is the first step in the solution of the problem of the high price of meat. Also there are silos—some 400,000, with a capacity of 31,000,000 tons of feed for live stock. Likewise their number is increasing rapidly. They are thickest in the dairy sections of New York and Wisconsin, and next throughout the Central West. They are anchors cast to windward, to preserve the forage as green food during the winter, and when drought and heat threaten the destruction of feed crops.

The abounding harvests, both present and prospective, have proved a great stimulus to business. But there is a sequel to our admiration. The volume of business is running full and strong, but it is a troubled stream in places. Strikes and riots by the Industrial Workers of the World have seriously interfered with copper mining in many sections, and with the lumber industry in the Northwest. While it is a matter of economic history that strikes, unless unduly prolonged, exercise only passing effects on business activity, yet in this instance there is serious import in so widespread and apparently determined an attack upon industry. For Syndicalism as a creed cannot grow in this country without causing constant trouble and unrest. The

busy, and somewhat unusual calm in that troublous industry, coal mining, has been broken in some localities by strikes and threats of strikes. Moreover it is squarely up against the matter of having its selling price fixed by the Government, even down to the figures which the consumer shall pay. The all important question, to which the whole world of business awaits answer, is the extent to which this price-fixing will go, and the range of commodities it will cover.

This abnormal situation, like many another that confronts us, is the direct result of war. Setting aside that philosophy of savagery, which holds that war is a necessary concomitant of human existence and human progress, it is perfectly obvious that war like everything else has the defects of its qualities. If it develops and stimulates patriotism, self-sacrifice, devotion and service to the country, and creates a spirit of vigorous nationalism, at the same time it carries in its train much that is unsettling, much that is abnormal, and much that is demoralizing. Whenever a law of nature is interfered with, from whatever cause and from whatever motive, there is no escaping the reaction thus created. If the law of supply and demand fails to work because of human greed in some quarters, or because the abnormality of war has thrown economic machinery out of gear, then the exigencies of the times may demand unusual action for the general welfare of the nation. But it is none the less true, until we get back to the natural operations of this law, that business will have to adjust itself to new and untried methods. That it will do so promptly and without serious disturbance seems likely from our experience of three years past, provided there be no appreciable falling off in business activity. (Continued on page 45)

Who Is Hurley?

Served Well Since the Days When They Fired a Burlington Switch Engine

By JAMES M. BINKLEY

JOHNIE MEAGAN and his brother mechanics displayed the keenest indifference toward the late and unlamented Shipping Board "controversy." They were employed in a shipyard on the Delaware and they were too busy turning out bottoms to beat the "square-heads" to take any notice of words—although those words might be as hot as the glowing bolts that were tossed to them.

Johnie's business was to go down the seams in the deck and tie the plates together by hammering the head of a red hot rivet with a pneumatic hammer. The music of his labors made you think of a large and angry woodpecker trying to drill a hole in a gas tank.

The men did straighten up and wipe the sweat out of their eyes when they heard that Edward N. Hurley had been appointed by the President to be chairman of the Shipping Board.

"'Tis the same man," observed a ponderous foreman, "that started this here pneumatic machine tool business. He ought to know something about what we are working at."

While his English might have been open to question, the truth of his observation was

without a flaw. It was this same Hurley that created the pneumatic machine tool industry in the United States and Europe, and there is something like poetic justice in the fact that the machines he developed play so vital a part in the construction of the steel ships that the world is crying for.

Edward Nash Hurley had been selling metallic packing for a manufacturing company in Philadelphia. He traveled out of Chicago, east and west.

Proof of his talent and energy, and the appeal of his personality, can be told by figures—his salary had been increased from \$100 to \$300 a month.

The packing was used for valves and pistons. Young Mr. Hurley, and he is youthful now, although he is fifty-three years old, often walked in among the machinery, locomotives especially, and did the packing himself. He would be on his back or his stomach, in the dust and grease, and demonstrate to superintendents and master mechanics the good qualities of his product.

That was Edward Nash Hurley, and is yet—omitting the posture and the dust and grease. Talking with engineers and other mechanical characters, Hurley, the salesman, discovered

an invention now and then and negotiated it into the laboratory of his employers.

But on one occasion, great for himself, inasmuch as it turned his life from selling goods to manufacturing them, he attempted to share the profits with his house. The device, a pneumatic cork, operated by compressed air, cleaned locomotive boilers of lime and sediment.

"I can sell the invention for \$1,000," he told his employers, having gone to Philadelphia for the purpose, "but I'll let you have it if you will give me a small royalty."

"But you found the invention while working for us," his employers said, "and in the time that belonged to the company. The invention, therefore, if purchased, is our property. We will pay the inventor a reasonable price, but we can't see that you have any rights in the matter."

"Very well," young Hurley answered. "I have worked for you conscientiously and successfully and have looked forward to the time when I might be given something besides a salary. I am disappointed over your attitude and simply want to say that you will have to find another salesman for my territory."

Out of a job, Hurley returned to Chicago.

On the street he met a man who had formerly been his fireman. "My brother," the man said, "has invented a pneumatic boring machine."

The next morning Hurley saw the machine and its inventor. A bargain was made. Experimental work was begun in an old barn, on the edge of Chicago. That was the birth of the pneumatic tool business. At the end of five years, Mr. Hurley disposed of his interest in the manufactory that he established for \$1,257,000. Previously, he had sold his patents in Great Britain, borrowing the money with which to make the journey.

The tat-tat-tat-tat-tat heard on the steel frames of buildings in course of erection is made by pneumatic riveting hammers. The red hot rivets must be driven in and clinched before they get cold. Thus they fill the holes and there can not be any shearing, no working back and forth, when two steel plates, as in shipbuilding, are fastened together in that fashion.

Hurley mortgaged his home to obtain capital with which to establish his first crude little factory. When the first payment, \$30,000, was given for his patents in England, he cabled the money home to his wife, being unwilling to trust such a gigantic sum upon the heaving and capricious bosom of the Atlantic, either by mail or in his own pocket.

Hurley reappears in the events of the day because he has returned to Washington and is helping his countrymen to defeat the Prussians. At the beginning of the war in Europe, of Germany's effort to become ruler of all creation, Mr. Hurley was chairman of the Federal Trade Commission, in which capacity, incidentally, he travelled all over the United States lecturing to business men about cost accounting and other matters of great importance.

A director on the boards of banks, railroads and manufactories, and a farmer at Wheaton, not far distant from Chicago, he felt that his personal affairs required attention. Therefore, he resigned his office.

"The place for the captain of a ship, at this juncture," he told President Wilson, "is on the bridge, and not in the smoking-room among the passengers."

But when the United States was drawn into the contest with the Huns, Mr. Hurley was conscripted by the President and smilingly ordered to the war council of the Red Cross. Next, he was made chairman of the nation's shipping board. He is one of Mr. Wilson's chief counsellors, and is in daily conference with members of the Cabinet and with the

other masters of business who are working day and night in civilization's battle with the barbarians.

A slender, rather elegant man, brown of hair and eyes, his grayish mustache clipped close to his face, Mr. Hurley is sincere and friendly. Likewise magnetic. And brimful of sen-

not efficient, neither cooperation with other business men or with the government will save him." Combinations, then, are of no value. Legislation is ineffectual.

"Intelligent cost accounting," Mr. Hurley continues, planting a fingerboard at the forks in the road, leading to success or failure, "lies at the basis of efficient management."

"Men," he says, "go into business to make money." "Profit," he explains, "is the difference between cost and selling price. Goods cannot be priced properly unless cost is known. The lack of an adequate cost accounting system in a factory is like the lack of a compass on a ship."

Then he makes this revelation: "The inadequacy of cost accounting systems in American factories is astonishing."

In peace, and peace will come again, Mr. Hurley's task is to scientize the processes of business. And when the Huns are subdued no man, if Mr. Wilson is still President of the United States, will have more influence than Mr. Hurley in shaping the economic policy of this government—the economic policy that the government will recommend to manufacturers, merchants, transportationists and bankers.

If peace comes under President Wilson this man will have great influence in re-adjusting our economic policies.



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THE Hurley story has all the elements of a drama. It is the story of a boy who saw visions suspended between heaven and earth and of a boy (now a man, unchanged in some respects),

whose eyes filled with tears when his heart was touched.

"Don't worry," the father said to the mother; "he will soon return to Galesburg."

"He" overheard the remark. And so when Edward Nash Hurley departed next day for Chicago, his father's prophecy gave him courage and he never returned to Galesburg to live. With this brief look into his character, the reader may begin the narrative of Edward Nash Hurley, the nation's shipbuilder, cautious at the start of his spirit and pride.

The elder Hurley worked in the shops of the Burlington railroad. He was a South of Ireland man. The mother, belonging to the same race and religion, was orderly, refined and ambitious. She sent her son to the private school of John Hennessy, a North of Ireland Presbyterian.

The teaching was better there, she said, and that was sufficient, even though Hennessy, religiously, was a heretic, following false lights and rejecting all that was true and solid.

He left school when he was fifteen, but his "Awakening of Business," a book of 240 pages, published this year, written with fine craftsmanship, can be found in the libraries of all the leading colleges and universities.

For several years he has been preaching from one text. Preaching is the proper word with which to describe his mission, as he goes back and forth, all over the continent.

"If," he declares, "the individual manufacturer's producing and selling methods are

Hennessy was a stern man. His hands had been burned and his fingers, immovably, twisted inward.

With his knuckles, stiff as wooden pegs, John Hennessy maintained discipline and his scholastic standards by jabbing them on the heads of his disobedient or delinquent boy pupils. "These knuckles, although, of course, I didn't realize it at the time," Mr. Hurley said to the writer of this article, "taught me thoroughness and respect for authority. I honor John Hennessy and the training I literally received at his hands."

The boy Hurley, small for his age, among stalwart brothers, wherein, perhaps, the sympathy of the mother began, left the Galesburg high school at the end of his second year. During the summers, he had worked on his uncle's farm for \$8 a month.

Jeremiah Hurley put his son at the machinist's trade in the Burlington shops. But the lad saw things afar off. "I reprove no boy for building castles in the air," Mr. Hurley observed to the writer. "Such castles are unreal? Yes, most of them are but dreaming. But occasionally one of the castles comes out of the sky and gets a sound standing on earth. Anyway, several of mine did."

Time passed in the shops. An elder Hurley brother had gone to Louisville. His letters were like stories of adventure to the apprentice at Galesburg. Half through his trade, Edward Hurley himself decided to leave home and try his hand at something else.

The foreman of the shop stated, in writing, gladly, "to whom it may concern," that the bearer was industrious and reliable. Testimony, all the conditions considered, could have gone further.

In Edward Hurley's world then strength, physical, was the measure of a boy's prospects in life. "Can he do a lot of work?" was the one great inquiry. And so the foreman did not add that "the bearer" was strong as a man, almost.

The day before he left home for good, Edward Hurley received his month's pay from the Burlington—\$35. He gave \$30 to his mother. It was in the evening that the father said: "Don't worry; he will soon return to Galesburg."

A freight conductor whom the boy knew let him ride part of the way in his caboose. When Edward Hurley rode into Chicago on a passenger train, his cash assets totaled \$3. The next day, showing the letter he carried, he obtained employment in a car works. His duty, so long as he was there, was to screw large nuts onto long bolts.

Again showing his letter, he asked for a fireman's place on the Burlington railroad. "Industrious and reliable," as read the

recommendation, offset such a doubt as may have existed about his ability to shovel coal into a locomotive. He was ordered to report at night for duty on a switching engine.

Ahead of time by an hour, Edward Hurley swept the deck of the engine and, being handy with waste, wiped off the machinery in the cab and polished the brasses. When "Dutch" Koegel, the engineer, saw what had been done he looked pleased and surprised and then asked: "Who are you?"

"Hurley is my name," the new fireman answered.

"Where do you come from?"

"Galesburg."

"Do you know Dick Cole?"

"Yes."

"Well, he is a friend of mine."

And so, the engine puffing and pulling through the night, Edward Hurley, by means of a broom, a handful of waste and Dick Cole, was established in the good graces of "Dutch" Koegel.

If Edward Hurley fell asleep, the engine waiting on a side-track, "Dutch" Koegel would pinch his leg, with a peculiar, agonizing twist of the thumb and finger, as a signal that the limited had passed and the switching business was to be resumed again.

"I owe much to 'Dutch' Koegel,"

Mr. Hurley confessed to the writer.

"The lessons he gave me were like money put out at interest for my future benefit."

John Hennessy's hard knuckles and "Dutch" Koegel's twisting thumb and index finger were emphasized by Mr. Hurley (Concluded on p. 50)



A shipbuilder working to heat the "dutch" with a pneumatic riveter. The delectable note of this useful machine was written into the score of our industrial life by Hurley. After securing the patent on it, he started a factory in a barn. At the end of five years he had established a great industry in this country and abroad, and had sold out for \$1,057,000.

One Throttle for a Thousand Trains

Five Picked Men Are Sanding the Track for the U. S. Limited on the Great American Railway. They Say "Do This," and It Is Done

By
LAIRD STERLING



AN unnoticed-army of 3,500,000 Americans, without bugles or banners, has been fighting the Prussian barbarians every day since April.

The figures are Howard Elliott's, one of the five generals in chief command of the host, which is composed of men, in the main, although many women are gallantly battling in the ranks.

Broadly, this huge army is divided into railway employees, of whom there are two million, and of railway owners, who number a million and a half. These men and these women, with their families, Mr. Elliott says, "represent nearly one-sixth of the population of the United States."

What they have done during the last four months to subdue the Huns is a story that so far has not been told. Few know it. And the few who do know it are amazed at the results that have been achieved.

There is only one railroad now in the United States. From coast to coast, east and west, and from frontier to frontier, north and south, a single railroad, as respects its management, with 262,000 miles of tracks, is hauling troops and freights under the inspiration of a high resolve—the rescue of civilization from the menace of barbarism.

This railroad, the pooling of several hundred properties, is being operated for the government. Not by the government, but for the government. Red tape does not exist. Authorities do not conflict. Egotism does not strive for publicity. Demagogues make no attempt to beguile or befuddle the electorate.

It is straight business—the running of the national railroad—and, perhaps, the finest example of straight business in some ways ever enjoyed by the American people. No law brought the railways together. They came together voluntarily, under the impulse of patriotism, when danger threatened the country.

"Here are our tracks, engines and cars," said the railroads to the nation, "and our men. Take them and use them until the war is over."

"The men" included all men—presidents,

superintendents, engineers, conductors, station agents, telegraphers, brakemen, firemen and track hands.

But it was understood that "the men" would operate the railroads for the nation, as they had for the owners, according to their own rules, by their own methods and under their old managers. The condition having been accepted, the railroads created a directory of five governors.

The name of this autocratic body is the Railroads' War Board. It says to the Pennsylvania Lines, "Send 4,000 empty cars to Georgia," and to the New York Central Lines, "Send 3,000 empty cars to Tennessee and Alabama." And the next day the cars begin to move southward, from sidings up and down the tracks and from choked terminals.

DURING the last four months, business men in Washington are saying, the efficiency of American railroads has been increased 25 per cent. Thousands of troops are being transported to cantonments and the seaboard, and millions of tons of war material are being hauled to points of mobilization, but, even so, the regular freight business of the country, larger now than ever before, is being better done than formerly.

It is supposed that Daniel Willard, president of the Baltimore & Ohio Railroad, suggested the idea of coordinating the land transportation agencies of the nation. At all events, he was directed by the Council of National Defense, being a member thereof, "to call upon the railroads so to organize their business as to lead to the greatest expedition in the movement of freight."

So on April 11 the chief officers of all the large railroads in the country, at Mr. Willard's request, met in Washington. These men

realized, Howard Elliott says, that "the amount of transportation we could manufacture with our plant was not adequate at all times to the demands of the people" even in times of peace.

"Manufacturing transportation," being translated, means the moving of freight. When the railroad officers solemnly assembled, loaded cars filled hundreds of miles of side-tracks outside of the large cities. War was to increase the congestion. There was prolonged discussion over the situation.

Out of that meeting came what has since been called "a war platform." The railroads pledged themselves "with the government of the United States, and with the governments of the several states, and one with another, that during the present war they will coordinate their operations in a continental railway system, merging, during such period, all their merely individual and competitive activities in the effort to produce a maximum of national transportation efficiency."

Also the railroads created an organization to operate the continental system and to formulate such policies as from time to time might be necessary. England, at the opening of the war, took over its railroads and managed them under an agreement to pay the owners their customary dividends.

The plan adopted in the United States puts no burden on the government. If dividends here are not earned, none will be paid. The

government can command the railroads at any time. Its freights are moved at once. Troop trains have the right of way, as against passenger trains. First, the government, in all things, at a fair price for the service it receives.

The five men on the War Board are Fairfax Harrison, president of the Southern Railroad, whose father, Burton Harrison, was Jefferson Davis' private secretary during the Civil War; Hale Holden, president of the Chicago, Burlington & Quincy Railroad; Julius Kruttschnitt, chairman of the executive committee of the Southern Pacific Railroad; Samuel Rea, president of the Pennsylvania Railroad, and Howard Elliott, until recently president of the New York, New Haven & Hartford.

Daniel Willard is a member of the board, ex-officio, as is Edgar E. Clark, of the Interstate Commerce Commission, who, years ago, was one of the most intelligent, capable and reliable passenger conductors in the United States. Willard and Clark are the counselors of the five dictators who are ruling and running the railroads.

MEMBERS of the War Board have met almost daily in Washington since April 15. They go to their homes or their own offices on Saturdays "to keep in touch," Howard Elliott explains, "with the details of the properties that employ us."

Subordinate to this board are twenty-three committees, which are composed of highly-paid railway officers of long experience, among whom are such distinguished transportationists

as President Smith of the New York Central, President Lorce of the Delaware & Hudson, President Pearson of the New Haven, President Calvin of the Union Pacific, President Markham of the Illinois Central, President Sproule of the Southern Pacific, President Ripley of the Santa Fe, President Kenly of the Atlantic Coast Line, President Harahan of the Seaboard Air Line, President McDonald of the Maine Central and Judge Robert S. Lovett.

One hundred and twelve general agents, each of whom is a conspicuous railroad man, were appointed to serve at the military headquarters in Boston, New York, Chicago, New Orleans, and San Francisco, and at the different mobilizing centers, and to work with army officers in the movement of troops, war materials, and supplies.

Helping the War Board in Washington are eleven railroad experts, ranking on their own lines as vice-presidents and general managers; sixty-nine clerks and stenographers; and eighteen inspectors who travel about the country and get information as to what should and should not be done. If a shipper is unloading his cars the War Board is told of the case.

No pay is given any of these men by the government. Their services are costing the railroads \$500,000 a year. Were the salaries of the members of the War Board and of such stars as Judge Lovett, Mr. Ripley and Alfred H. Smith included, the total would run into millions. All are working for the railroads, of course, but their time and ability just now are given to the country.

The whole object is to speed up the move-

ment of freight, to get coal to the factories, iron ore to the furnaces, and food to the people and the armies. For years there has been a shortage of cars in the country. The cause of the shortage has been debated in Congress, in the legislatures of the states, on the stump, and in the newspapers. Opinions clash, but the shortage exists.

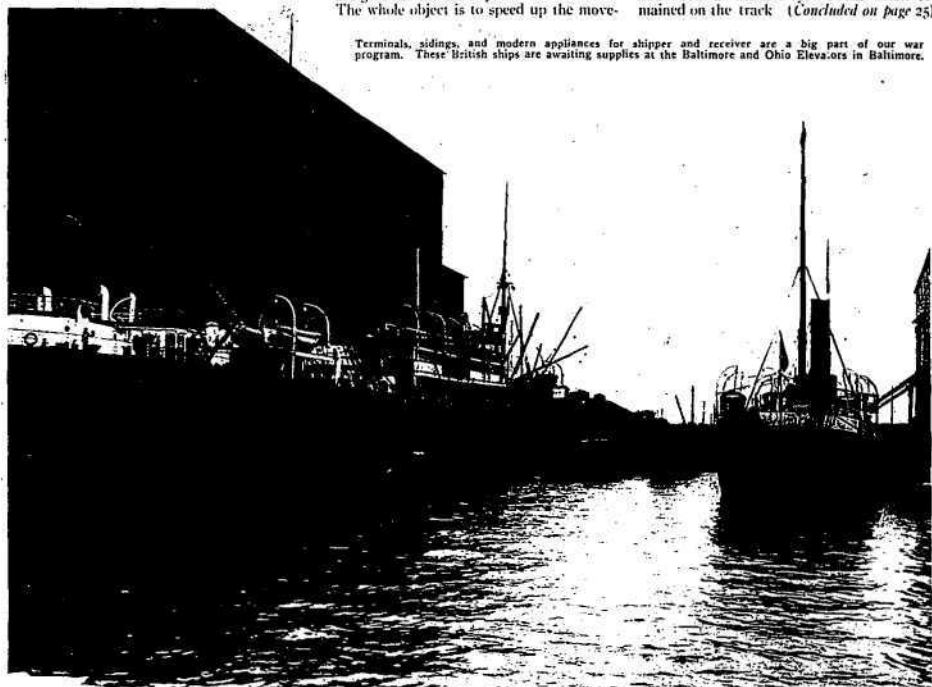
One of the first acts of the Railroads' War Board was to appoint a commission on car service. Six men were named. All of them are superintendents of transportation and are associated with such great systems as the Pennsylvania, the Burlington, the Boston & Maine, the Southern Pacific, the Missouri Pacific, and the Norfolk and Western.

These men have accomplished wonders. They meet every day but Sunday and often work at night. There are 2,300,000 freight cars in the United States, of which 250,000 are owned by meat packers, oil refiners, coal operators, and so on. The average addition to the freight equipment on American railroads has been about 150,000 cars per year. Products to be moved have grown much faster.

Freight is received and shipped from about 300,000 cities and towns. "Lack of terminals, lack of sidings, lack of modern appliances on some of the railroads, and lack of modern appliances by shippers and receivers of freight in some places," says the War Board, "have prevented the full use of the cars and overtaxed the transportation system as a whole."

Before America went to war with Germany, the movement of freight, as every one knows, had been unsatisfactory. Goods often remained on the track. (Concluded on page 25)

Terminals, sidings, and modern appliances for shipper and receiver are a big part of our war program. These British ships are awaiting supplies at the Baltimore and Ohio Elevators in Baltimore.



Taking King Coal by the Throat

Fuel Situation Hangs in the Balance; But We Can Tip the Scale by Burning Less This Winter

By J. WAINWRIGHT EVANS

IN these days the very clouds of sunset take the form of question marks. They range all the way from coal down to the little fellows no bigger than a man's hand—all of them growing. It's like Molly and I and the Baby—with plenty of babies.

And of these the most uncertain, the most threatening, is coal. Coal, like food, conditions every other industrial question. If coal be uncertain, everything is uncertain. If we can get coal this winter we shall have brought under control the one question that is still uncertain enough to constitute an imminent national, and even international peril. We have other uncertainties, but only in the case of coal can no man make predictions.

If we can't get coal, we go to the wall, with something unpleasantly like a Prussian firing squad in front of us;—and the Prussians, and our hyphenated press, will soon be demonstrating how efficiently we might have run our railroads and our mines if only Kultur hadn't beaten us to it.—This is not a well-eyed nightmare; it is a fact. There is no room for argument about getting coal into our bins; we've simply got to do it.

But the question comes even nearer home than that. It comes right into the community and into the home, and hits every man of us right between the eyes. Here, for instance, is John Smith of Chicago. Will he presently have to close down his factory and face personal ruin? That is what John Smith would give hard cash to know right now—right away quick.—Again, there is John Brown of Podunk. He wants to know whether it means heating his little store by taking his axe and cutting down the old tree in the back pasture. But he is better off by far than Antonio Marinoni of the lower east side in New York, who bought his coal by the bucketful last winter at the rate of eighteen or twenty dollars a ton. His uncertainty is the most appalling of all. Will he have to see his perhaps undernourished wife and children sicken and die for lack of warmth? Will the baby survive it? Will tuberculosis and pneumonia and scarlet fever, the allies of cold and hunger, have this added chance to help the Kaiser? There are thousands and thousands of Antonio Marinoni; and there are other thousands who, whatever price they

can pay, may not be able to get coal simply because it is not to be had—not though they offered for it its weight in gold.

All this is as grim and real and possible as war itself. These things can happen; and they absolutely will happen unless the present tangle of inadequate transportation, coal mine strikes, and the like can be straightened out—not by-and-by, but at once. Failure in this means that the people of the United States this winter will inevitably face terrible suffering, privation, and even death.

Those who try to prophesy what is going to happen and how it is going to be accomplished generally start out confidently; but one and all, they begin with an If and end with a Perhaps. The only rock-bottom fact in the whole business is that down in the earth, in "a path which no fowl knoweth", we have coal enough to last us 3,000 years; and that we have

enough miners to dig it if there aren't too many strikes; and that we have enough cars to haul it if we can use them efficiently enough to make them go around, and if we don't have to use too many of them for hauling other necessities we can do without as little as we can do without coal. And thus by the time you cover the subject you have created a vicious circle. No man can yet say how we shall get out of it; but get out we must.

IF I seem to be laying on the pessimism rather thick, I can only say that if we are to get anywhere with a question like this, we have to have a base; and that a sane pessimism is the only base that is going to get a reaction out of the mass of the people. I hope to show presently what seems, from the sheer logic of the facts as we know them, to be the solution of this question—to show where lies the point of certain reference in all this mass of uncertainty. It must be clearly understood that there is not a man in the United States to-day who can say with any confidence that our mines will produce enough coal, or that our railroads will be able to carry enough. We must not base our hopes on the assumption that they will. All we can wisely do is to hope they may; and then seek elsewhere for a rock on which to build. Any other course would be as foolish as for the nation to sit back and wait for somebody to invent a way to fight submarines, instead of setting to work to build enough ships to make up for prospective losses. We all hope for an invention for fighting submarines; but we seek

for certainty in another direction. In like manner we all hope the railroads and the mines can perform something very like a miracle; but we will be the biggest fools in history if we let ourselves depend on that alone.

I shan't say here what the immediate—the only sure solution must inevitably be. I prefer to let the reader come to his own conclusion by the same steps that I have taken through the solid month of investigation which has preceded the writing of this article. I think he will not escape facing squarely certain facts that have become desperately and terribly plain to me.

First, let us try a little more pessimism. Let's consider just what the coal problem is, in outline at least.

OUR outside limit of coal production this year, according to the United States Geological Survey, will be about 600 million net tons; and we could use 750 million if we had it. That 600 million is pretty optimistic, too. It assumes some almost miraculous work from the railroads, and a straightening out of labor troubles at the mines which does not yet seem to be in sight. I can't go into the strike situation here; but it is worth noting that at the date of this writing there are sixty coal strikes in operation in this country.

But what in the world would we do with 750 million tons if we had it? Well, a man who recently went by boat from Baltimore to New York told me that the sky most of the way was lit up at night by the activities of factories being run to their full capacity, most of them on war orders, or because of the generally stimulated call for different products. Many of them are new factories. Their work ranges from the production of ammunition and automobiles to the making of uniforms and the small parts of airplanes. Most of them are running on three shifts, right 'round the clock. Everyone of them operates at a forced pace, with the furnaces eating coal as fast as it can be shoveled into them, so as to produce every pound of steam the equipment can stand. This condition is universal. It is true in New England and the great West. It is spreading over the country in the form of a host of war orders that come in an ever increasing flood, and are reaching the remotest factories in the land. The government is utilizing every available plant as fast as the contracts can be arranged and the necessary changes made for the production of war equipment. Automobile factories and foundries are many of them making shells and guns; textile firms are making uniforms; shoe factories are filling fabulous orders for shoes;—and so it goes.

That is just a glimpse of what we could do with 750 million tons if we had them. The allies want coal; the navy must have coal; our normal demand goes up yearly; Canada foolishly let her Nova Scotia miners go to war, and therefore needs coal. Seven hundred and fifty million! Why we could use that and, then leave a clean plate.

Moreover, while our factories are forcing the pace twenty-four hours a day, the coal



The trapper boy who does his bit by ventilating the mine

mines still continue to produce on the eight hour basis, for only 235 days in the year instead of the 300 that they should produce. And now a mess of strikes threatens to make even that poor little 235 look like a fade-away on a movie screen.

We have burned all our excess, even to the dust coal that used to lie in great, useless banks in different localities. It was thought to be of no value. Operators were glad to be rid of it at from 6 to 20 cents a ton, and to pay the freight on it at that. But they have sold it at a profit, and now they are licking the platter and hungrily looking about for more.

Now combine this voracious consumption of coal with the almost unmanageable tie-up in transportation described elsewhere in this issue, and you get some idea of what the gentlemen who are trying to undo this snarl are up against. Primarily this is a problem in transportation. If we had transportation the difficulty would vanish. But the trouble is that we haven't got it—in sufficient quantities to meet a demand that is concentrating itself into a couple of months instead of spreading itself out over the whole year. You might as well try to put the torrent of Niagara Falls through the Erie Canal without allowing time for the process. That is why we must earnestly seek another remedy than transportation alone.

The distribution problem, big as it is, will have to pass with bare mention here. The danger point now is the Northwest, which gets its coal by the great Lakes. The trade routes from

the coal ports of Lake Erie converge in the channel of the Detroit River. Stand on the docks at Detroit, and you will see a majestic procession of big steamers filling by you, each of them bearing coal by the train load for the use of the great Northwest. That wonderful procession will not end till the ice stops it. And yet it is questionable whether the Northwest will have enough coal, and it remains to be seen whether a rigid priority of shipments to the lake ports will prevent trouble in that part of the country. New England's barge service through which it formerly got its coal, has stopped because the government took the barges. Coal is now being rushed into New England by the railroads; and an embargo has been placed on shipments to Canada because Canadian buyers were buying New England's coal by bidding top prices that New England could not meet. New England is now practically out of danger. The other two danger points are Chicago and Pittsburgh. Each is the center of a glorious tangle of track; each has a heavy outgoing traffic; and the result is that the railroads can't stand the strain simply for lack of capacity to meet a demand so concentrated. The question of getting coal into Pittsburgh is like pitting an irresistible force against an immovable body. There is, of course, more to the distribution difficulty than that, but this will suffice to show what it is like.

So much for the principal facts in outline. Fill in the outline, and you'll know as much about what can happen as the next man, and you will then understand why the coal experts, and the railroad experts, and the labor experts, and the big manufacturers are all just guessing at the outcome.—But is that, then, the whole of it? We are but for certainties, and is that dusty answer all we get? Thank goodness.

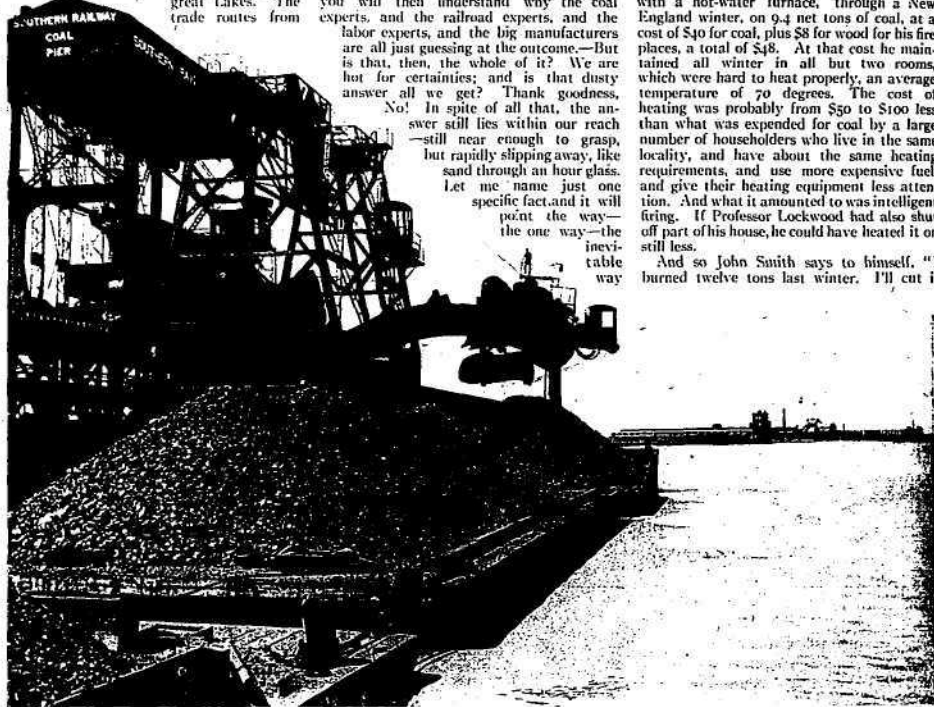
No! In spite of all that, the answer still lies within our reach—still near enough to grasp, but rapidly slipping away, like sand through an hour glass. Let me name just one specific fact, and it will point the way—the one way—the inevitable way

—the way from which the logic of the whole situation leaves no escape. We waste millions and millions of tons of coal a year through inefficient firing, electric signs, and the like. We don't know how many millions, but we do know the total is enormous. Now consider one evident source of waste—the domestic furnace. The coal used for domestic purposes, in homes, hotels, apartment houses, schools, public buildings, churches, and the like, amounts to 128 million tons. A very big part of this is wasted.

SUPPOSE now that John Smith wakes up to the fact that last winter he heated his ten-room house on twelve tons of coal. He kept it all open. There were no cold halls; no cold bedrooms. John Smith stoked his furnace by instinct; a matter of a couple of tons gone up in unburned gases and smoke didn't matter. But John Smith to-day knows that that sort of thing is next door to treason. He will use fewer rooms; he will shut off the halls; he will heat the bedrooms just enough to keep them from getting damp; he will see that his doors and windows are reasonably tight; he will avoid maintaining excessively high temperatures; and thus he will save coal—lots of it.

In a bulletin published by the Bureau of Mines entitled "Saving Fuel in Heating a House," he will find the record of an experiment carried out one winter recently by Prof. E. H. Lockwood of Yale University in the heating of his own ten-room, frame house, with a hot-water furnace, through a New England winter, on 9.4 net tons of coal, at a cost of \$40 for coal, plus \$8 for wood for his fire places, a total of \$48. At that cost he maintained all winter in all but two rooms, which were hard to heat properly, an average temperature of 70 degrees. The cost of heating was probably from \$50 to \$100 less than what was expended for coal by a large number of householders who live in the same locality, and have about the same heating requirements, and use more expensive fuel, and give their heating equipment less attention. And what it amounted to was intelligent firing. If Professor Lockwood had also shut off part of his house, he could have heated it on still less.

And so John Smith says to himself, "I burned twelve tons last winter. I'll cut it



The mechanism that replaces the coal shovel is on a scale commensurate with the great place of coal in modern life. This steel monster dumps cars as men empty wheelbarrows. The great steamers that carry American coal abroad to relieve the pressing needs of our allies are speedily loaded at piers like this.

at least to eleven this winter, and it's a safe bet I can make it ten. But, in any case, it will be not more than eleven. That would be a saving of eight per cent."

A little figuring will then show John Smith that a universal saving of 8 per cent in the use of domestic coal would mean a conservation of ten million tons out of the total of 128 million used by the domestic trade. A trifle, you say? A drop in the bucket? Not at all! If we can get along on 118 million instead of 128 million tons, it means the difference between enough and not enough in the domestic field. We might make it on 118 million; but 128 million is a desperate uncertainty.

Then John Smith will go a bit further. He will read the bulletin of the Bureau of Mines called "Hand-firing Soft Coal Under Power Plant Boilers." He will learn that the manufacturing plants of the country use about 33 per cent of the total production of bituminous coal; and that while most of the bigger plants have learned to use coal economically and efficiently, hundreds of the smaller ones waste and waste and waste—through unscientific firing, and by using the wrong coal with the right furnace, or the right coal with the wrong furnace, and the like.

NOW let's drop John Smith for a moment and turn to Dr. Harry A. Garfield, the newly appointed Coal Controller. It will be profitable to consider his problem in the light of the facts, and see what his line of action will probably be. Mr. Garfield has as yet given out no statement of what he will do. It is possible, however, to draw certain inferences from a striking analogy that exists between his job and that which Mr. Hoover is carrying out with such great success—a success which is slow but sure.

Mr. Hoover is doing some very specific and effective things about food. The most effective thing he is doing is in the direction of a campaign for economy in the use of food that will soon reach into every home, hotel, and restaurant in the country.

A sense of personal responsibility on the part of the persons who compose this nation is the only thing that will win the war. Doctor Garfield will appeal to the people to save coal, just as Mr. Hoover has appealed to them to save food;—and he will do it with as great success.

Of course that isn't his whole job. He has price fixing to worry over; and his troubles and perplexities over transportation and production are many. But the point is that price fixing won't give us coal; nor will exhortation to the harried railroads give us coal. All these things help—but they are not certainties. The only certainty is to reach the convictions of the American people, and make them see what they themselves can do—make them see their duty in this matter so clearly that they will inevitably do it, as they are already doing it with respect to food—That, it would seem, is Dr. Garfield's big job.

There is nothing hazy or uncertain about

all this.—The United States Geological Survey, for instance, could, in 90 days, determine the amount of coal normally required in every community.—Such data would enable the government to say to a given community, "If you save coal to the extent of eight per cent you can pull through this winter on so much coal! We will send you so much from the nearest mines. *Make it do!*"—Nothing hazy about that! Again it would be possible to say to such a community, "Get together on this! Stop those electric signs that are wasting your coal. Keep tab on the individual coal users in your

the Fuel Administration in each state and territory; and, in conjunction with the state representative, a committee of citizens, who with the representative, will assume direction of the regulation of coal in that state. Further each state representative will choose a committee of citizens to represent the Fuel Administration in each county of the state and in each city in the state having more than 2,500 population.

No person will be appointed, either as a state representative or on any committee, who is connected with the local coal industry.

The state committee will at once ascertain the amount of coal in the state available for use during the coming winter, and the amount of coal needed to meet any deficiency in the supply, based on last year's consumption.

The various committees will determine a reasonable retail margin, which will allow for the cost of local distribution, and a reasonable dealer's profit, which data will be considered in determining the price to the consumer.

The report concludes: "A very large proportion of the coal supply available for the coming winter is under contract. These contracts, which are allowed to stand for the present, were made prior to the President's proclamation and very largely limit the amount which may be placed on sale at retail prices based on the President's order.

"It is absolutely essential, however, that a sufficient amount of coal be put on the market at once at these prices to meet the needs of domestic consumers. The Fuel Administration believes that this supply of coal can be made available and will be made available by voluntary arrangement between the operators and those with whom they have contracts, and thus make it unnecessary for the Fuel Administration to exercise or recommend the powers, the exercise of which is provided in the Lever Act."

It is clear that such a plan for definitely determining the needs of a given community by local committees implies almost inevitably that such committees can, and doubtless will, be expected to require their respective communities to use coal with the utmost economy; and that the committees will carry on such educational work to that end as may be needed. The logic of the situation calls for it. Throw nation-wide Saving of Coal into the scale, and the scale will tip. Leave Saving out and the scale will still tip—but it may tip in the wrong direction. We can have the certainty of enough coal this winter if we are willing to pay that price; we cannot have it for less.

THE Mexican dollar, which began its career in 1497 and became mighty because Mexico, former producer of two-thirds the world's silver, put intrinsic value into it, may be falling upon evil days. According to some observers, they may yield their last great stronghold, China. Whatever befalls them may be a result of war; for silver has gone to such a price that China's store of Mexican dollars shows great inclination to leave the country or go into the melting pot.

DR. HARRY A. GARFIELD, United States Fuel Administrator, makes the following appeal to American business men, through *The Nation's Business*, to cooperate in a nation-wide campaign for fuel conservation:

It is the duty of every American to save coal this winter.

If every family will save a ton of coal, if every industrial plant will save ten percent of the coal it uses, which ten percent it now wastes, the coal problem will be largely solved. There is plenty of coal in the ground, but there is a shortage of cars and of labor at the mines.

If every family will reduce the temperature of its house at least five degrees, it will mean that millions of tons of coal will be saved and the health of the nation will be improved. This is not a hardship; it is a health measure, for most Americans live in super-heated houses.

The coal supply can be conserved by more economical methods of firing, by sitting closer, by watching the furnace door and by heating only the parts of the house in use. To do this is a public duty. If the householders of the country save one ton out of twelve, they save ten million tons of coal. The Bureau of Mines states that many plants waste as much as fifty percent of the coal they buy through unscientific firing and inadequate equipment.

Immediate changes to efficient equipment are in many cases impossible just now when our need to save is greatest; but efficient firing and intelligent effort on the part of all power plant operators to do the best they can with the equipment they have, would mean an enormous saving that would make the coal situation safe instead of critical.

The opportunity here for business men's organizations throughout the country to cooperate with the state and local fuel administrators now being appointed is obvious. It is the patriotic duty of every manufacturer to consider the problem of scientific firing and to see that his firemen are properly instructed. Advice and information can be had for the asking from the Bureau of Mines, which has made extensive investigations of the whole subject of scientific coal using.

The solution of the coal problem lies largely with the American people. The Government cannot save coal for them; they must save it for themselves. They must not rely wholly upon price fixing, nor upon the already overtaxed transportation systems of the country, nor upon the effort to increase production, nor upon the apportionment of coal, nor upon the enforcement of the law. All must cooperate. The consumer of coal in house and factory can cooperate most effectively by the economies suggested.

community! Pledge yourselves to rigid economy and then stick to it! *We know what you can do, for we have the figures!*"—There is nothing hazy about that!

I do not put this down as what the Government will necessarily do in detail. What I mean to imply is that the ends which the Government has in view, and the methods by which those ends will be attained, will be found to conform substantially to this account. These are the lines by which the people can be reached; such ways of conducting a gigantic, intensive campaign for fuel economy do exist, and can be used; and this general fact is our oasis of certainty in a Sahara of doubt.

Nor are straws lacking to show which way the wind blows. I have before me an announcement given to the newspapers just as this article goes to press.

In substance it says that the Fuel Administrator will immediately choose a representative of

Buy A Bond With Your Beefsteak!

Our Yankee Salesmen Believe They Could Float the Liberty Loan Over the Counter of the Butcher, Baker and Candlestick Maker

By **GEORGE ED. SMITH**

President of the Sales Managers' Association of New York



The forceful looking person with the cigar and grip is George Ed. Smith, president of the Royal Typewriter Company and also head of the Sales Managers' Association of New York. He offers the services of over a million of the shrewdest salesmen that the world has ever seen for getting the next Liberty Loan to every crossroads and side street in the United States. What is more to the point, he plans to get it there with sales scientists who can present compelling arguments and answer critical questions from persons who have never seen a bond. Six thousand of these American salesmen are shown across the two pages. The panorama was taken at the World's Salesmanship Congress in Detroit. President Wilson is in the center of the host. The regiments of America's sales forces are behind the President—literally and figuratively.

the most inaccessible tributaries of trade; and that it would tap the savings of the people with a minimum of expense and effort by the government.

It is believed, too, that this method of selling would greatly extend the effectiveness of the War Savings Certificate plan which is now being considered by the Government. This plan, so far as its details have been made public, amounts to selling through the post-offices of the country, certificates ranging as low as a dollar, and perhaps even down to twenty-five cents. These, at a specified date, would be redeemable at an amount sufficiently greater than what was paid for them to yield, say, four per cent interest per annum.

Of course the purpose of this would be to enable the poor man, with a dollar in his pocket and patriotism in his heart, to invest that dollar on the spot, while he has it. It would even enable children to turn over their small treasures to their country. A similar plan has worked in England; and there seems to be no good reason why it should not work here.

Unquestionably, the post-office will be one very effective medium for the sale of these certificates. The post-office, however, is not properly a place of barter and sale. People go to the post-office to get their mail. They go there comparatively seldom; and they leave as soon as their business is accomplished. There is nothing about the post-office to attract them or to keep them. Moreover, the post office is not a place where the people at large are obliged, because of their wants, to go daily with money in their pockets, to purchase the necessities of life.

It seems clear, therefore, that the services of the post-offices might well be supplemented by the stores. Both bonds and certificates would have a vastly stimulated sale if they were kept, not where people have to go out of their way to buy them, but where they have the issue literally staring them in the face—liter-

ally on view—literally and obviously for sale, right on the spot, for cash. It ought to be as easy to buy a Liberty Bond or a War Savings Certificate as it is to buy a pound of coffee. It ought to be possible for John Smith, laborer; for Sally Smith, his wife; for Susie and Jimmy, their offspring, to point to bonds or certificates and say: "These are mine. I denied myself some small pleasures and bought them." Harry Brown is a twenty dollar a week clerk, unmarried. Suppose, with his week's pay in his pocket, he enters a store to spend a dollar on some foolishness—as men without dependents will! Harry Brown is patriotic. He will yield to the patriotic impulse if the opportunity is put right under his nose; and the chances are that he'll invest that dollar instead of spending it if he see the chance before his very eyes. Furthermore, when he has once learned how fine it makes a man feel to do his bit, he'll get the habit. The result of that will be that he'll catch the idea of Thrift—which is possibly the most important idea that the American people can acquire just now. Thereafter his dollars, fives and finally tens, will dribble with fair regularity into the United States Treasury. Moreover, he'll call to the other fellows to come on in the water's fine;—and he'll go around with six inches of self respect added to his stature.

This is not to say that somewhat the same thing won't happen if the post-office alone is utilized for the sale of the War Savings Certificate. It merely means that the results will probably be much greater if the stores of the country are included. And this is just as true of Liberty Bonds.

It may be objected that if the merchants have any disposition to buy bonds to sell to their customers, they will go to their local banks or to the local post-office. Very true. Doubtless some of them will,—and of their own accord. But the average man won't move

THE time may soon be here when Liberty Bonds will be sold over the counter of the butcher shop with the steaks and chops; over the counter of the grocery with the sugar and tea; over the counter of the hardware store with the chicken netting and the nails. For these are the ordinary channels of exchange. It is through these channels that the money of the people flows, and it is these channels that will soon have to be tapped if this nation is to continue spending 30 million dollars a day for war. For you can avoid your banker, and you can keep away from the post-office, but you can't escape contact with your grocer, your druggist, your haberdasher, and all other dealers in the things you have to buy.

Hundreds of suggestions have been sent in by the business men of the country to the Treasury Department for the effective selling of the Liberty Bonds. One of these plans is for the utilization of the army of more than a million trained traveling salesmen—an army that has, right now, ready for use, a system that reaches virtually every merchant in the United States whose line necessitates placing orders for goods.

The idea is that when the salesman of a great hardware company calls on a customer and sells him, say, five thousand dollars worth of goods, there is no reason why he should not at the same time sell that merchant a liberal quota of bonds which the merchant can resell over the counter to his customers. Supporters of this plan believe that if it were put into general operation it would easily result in the bonds penetrating to the remotest, the smallest

till you stick some sort of a pin into him. How many men, for instance, would buy life insurance if it weren't for these pesky insurance agents. We all know we ought to buy all the insurance we can afford; but we don't—till along comes a man from the Prudent Protection or some such company, and looks us in the eye, and says, "If you had been run down by the automobile you dodged out there this morning, what would be your wife's financial rating? It isn't just that I want to sell you a policy; it's that I

Certificates. I do not mean to imply that the plan would present no difficulties, but in all probability they are difficulties that could be easily overcome; and they would be worth overcoming for such pronounced results. The results would be forthcoming; for it is commonly acknowledged that this is the strongest selling nation on earth; and that the American salesman is without a peer in his field.

I recently talked the idea over with a man who has had a great deal of experience in the

I recently went to a half-dozen manufacturers in Detroit, and asked them if they would be willing to dedicate the services of their salesmen to the country for one day, and they instantly said they would. I got those answers right off the bat in the course of twenty minutes. I believe I could have gotten the same answer from every automobile manufacturer in the country if I could have reached them; and that the same is true of other industries. I know of an instance of a sales manager in a small



The American traveling man—these dynamic "drummers" and their brothers—have made this the greatest selling nation of the world. Everywhere he is the pioneer of civilization and he leads the advance of better living. He is on the industrial firing line. Arrayed against him are the static but stubborn forces that make a man cling to the old order of things and oppose all reorganized notions out of principle. But the salesman—and progress—have always prevailed. He brought the Ford car to Kansas and to Kandahar. He scattered the reaper, the binder, the gasoline engine, the silo and the tractor throughout the land—with the result that the American farmer is no longer a rube but a business man who is capable of answering the world's cry for bread with bread. The same thing applies all the way down the line to the well-fitting clothes that have replaced the blue jeans and calico dresses of jump-off. With all our shortcomings in foreign trade, we have a great advantage in the American traveling man. Competitors of other nations admit that they can not stand before him as long as the chances are anything like even. He is the fulfillment of the saying: "He that would bring home the wealth of the Indies must carry the wealth of the Indies with him."

think you ought to be ashamed of yourself." And so on till he gets you.

NOW suppose a man who really knows how to sell, and who has had a certain amount of special instruction in the selling of Liberty Bonds, springs the same sort of talk on you. "What are you doing to help end this war?" he says.

"I've bought a five hundred dollar bond," you say, "and I gave so much to the Red Cross."

"Pretty good for a starter," he says; "but what's the matter with your going further? I don't care a whoop whether you've bought a five hundred dollar bond or a ten thousand dollar bond. What I want to know is why you don't buy up a stack of these bonds to sell over the counter to your customers. Now then, how much? I'll take your subscription right now, and send it right along to your bank; and they'll put it through the proper channels. Remember that this hasn't a thing to do with the bond you've bought for your own consumption. This is different. You are simply going to pass these bonds along. It's absolutely safe. They are negotiable. You can go the limit. Now how much cash can you spare for this purpose?"

Suppose you name an amount. "You can't put that over on me, Jim," says your salesman friend. "I've been selling to you for twenty years; and I know your rating better than Dun and Bradstreet. Come now. Twice that. Go the limit. Your bank will see you through if need be."

And so you surrender. You are going further than you ever would have gone without urging; and you are tackling a man-sized job. You are going to get on the trail of every likely customer you have. You'll wake your customers up just as your salesman woke you up; and you'll put it through.

This pictures roughly what might conceivably happen under such a plan, either for the sale of Liberty Bonds or of War Savings

practical work of selling bonds. "Well," he said, "if it worked, it would be magnificent. But each of our twelve federal reserve banks has a selling board, and takes care of its own district. Each of these boards is made up of experienced men; and it sells after methods that are effective in its part of the country. These methods differ widely. I can see that it would be necessary to lay some very careful plans to prevent the lines getting crossed; and I can see that a stranger coming in from the outside to sell bonds in a given district might seriously interfere with local plans and methods, unless plans were worked out that would put him effectively in touch with the local selling boards of whatever district he might be working in. I believe it could be done, however, and I should like to see the plan seriously considered. It wouldn't do to offer such a thing as a solution for the whole bond-selling problem; but it is unquestionably rich in possibilities. I know that the Treasury Department gives careful and hospitable consideration to any promising suggestion that is made to it. The object of the department you understand, is to sell the bonds, and it is clear that the sale of these bonds will become increasingly difficult with each new issue. In my opinion the quickness and ease with which the first issue was sold was wonderful. Nothing approaching it has ever been accomplished on any large bond issue in any country. But we must provide for the future difficulties that will surely arise." Such was the opinion of a man of bond-selling experience, a man who would presumably be critical if anyone would.

THERE are more than a million salesmen in America. They can be reached through their employers, and their employers can be easily and effectively reached through the more than 1,200 business organizations of the country, all of them organized and in active operation now,—with their services to be had for the asking.

western town who sent out the thirteen salesmen of his force to sell Liberty Bonds; and in a few days those men had brought in 318 applications. Of course they had to be instructed how to do it; but the point is that they were trained men—experts in selling.

One more thing. The wealth of the common people is a great reservoir. No country has ever succeeded in sounding the depths of it. The case of France should be a lesson to us in this respect. The quickness with which France paid the indemnity of the Franco-Prussian War is one of the wonders of economic history. The amount was enormous, as wealth went in that day—five billion francs. But the French paid it, and paid it too without interruption of their national prosperity; and the way they did it was by reaching out into the home—to the small savings of small people,—savings which are continuous,—beside of which all the riches of all the millionaires in the world is, in the long run, as a molehill to a mountain.

THE United States is now the world's greatest loan market. London acknowledges so much, although it inclines to make a distinction and insist that it is still the world's money market.

In the latter half of the argument London may be wrong. At any rate, dollar exchange appears to be in demand pretty much around the world,—a fact which testifies to the present purchasing power of the dollar.

FOUR million tons appears to be the aggregate of the merchant vessels the British government has under construction according to the standardized plans. This is about four times the tonnage the International Mercantile Marine has in its fleet of 97 vessels, which brought in \$88,000,000 last year. The standardized steamers are of the three-island type,—i. e., with bridge, poop, and forecastle, and they come in three sizes,—respectively, three five, and eight thousand tons deadweight. The first of the lot is already in commission.

OUR DEMOCRATIC DESPOTS

Intimate Pictures of the Seven Big Men Who Make Up the Powerful War Industries Board

By JAMES B. MORROW

SOON after we declared war on Germany the need of a general and powerful war body became insistent. A thousand and one agencies jostled and tripped each other in their eagerness to crush the enemy. The Council of National Defense—a shadow as far as authority to act was concerned—became nevertheless the target of many verbal and editorial grenades.

To remedy this condition the War Industries Board was formed with Frank A. Scott as its chairman. Though not created by legislation, the board is backed by agreements which give ground for the hope that it will succeed in the difficult work of supervising effectively the entire field of war production and transportation.

We take pleasure in presenting to our readers the five civilian members of the board in the following table interviews.—*Editor.*

The genius of Frank A. Scott (A for Augustus) lies largely in his knack at hitching men in tandem or by teams—two or a hundred—and then getting them to pull together.

An engineer of human nature, he is master of temperaments, idiosyncrasies and crochets; of utopians and materialists. His art, moreover, is just as effective with day laborers as with bankers.

Sent for, and by telegraph, he arrived in Washington. He was to remain three or four days and counsel Mr. Baker, Secretary of War, in certain matters of serious business. Once in Washington, however, he stayed—by request—through April and then May and all of the intervening months to the present.

The generals and the colonels of the staff were overloaded. Using Frank Scott's own figure, Uncle Sam, with the greatest prescription in history, greatest in bulk and nicety, was attempting to have his fill at a little suburban drug store. What was needed, Frank Scott said, was the combined product of all the manufacturing chemists in the country.

Able men, and patriotic; the generals and the colonels, were toiling night and day for their battles with the enemy. But the system, their master, a system almost as old as the government, was also at work night and day to minimize their efforts.

Mars, uglier than ever, and more powerful and brutal, armed with weapons new and terrible, would have to be met with huge armies of men and mountains of material.

Where each department in a factory is a unit of itself, purchasing and producing as though it were a separate establishment, there can neither be harmony nor efficiency. It was so, exactly within the War Department; and also within the department that governs the navy.

Frank Scott saw the evil after a short investigation and the remedy. "What the government should have," he told Secretary Baker, "is a committee of military and naval officers, public officials and business men to make purchases of war materials and to distribute the materials where the need for them is the most urgent."

But would it be possible for the generals and the colonels on the one hand, and the admirals and the captains on the other hand, to pool their interests and their wants, personal and professional, and meet on the common ground

of national necessity and the country's welfare?

"They will," said Frank Scott positively. He had talked to them previously. A general board of munitions was created. Scott chairman, and what Scott had foreseen and foretold became an actuality.

Generals, colonels and majors, admirals and captains, civil officers and manufacturers, forgetting their specialties, seeing only the Huns in the glare of burning towns and cities, farm houses and cathedrals, cooperated zealously. "And," Scott testified, "with great ability."

"Whip the Prussians," might well have been the pass-word of the board's secret conferences.

How could Frank Scott—wide-shouldered and black-haired, commanding as to nose, which is Romanish but not hooked, and gray-eyed—how could Frank Scott bring order out of confusion during one of the gravest moments in the history of the country? The answer can be found in his experiences.

The narrative of his career and his achievements (big words but never too big for certain types of small boys) starts with the death of his father, which occurred when he was ten years of age.

Since that day Frank Scott has paid his own way. Some boys deliver morning newspapers, and some deliver afternoon newspapers. Frank Scott delivered both. He arose every morning long before daylight. To this hour, he says, an alarm clock makes him jump.

THESE details are trivial, but they are finger-posts none the less that show the way into the character of Frank Scott. Meanwhile, working in the morning and late in the afternoon, he was going to school. He never went further than the eighth grade. At twelve, he began carrying messages for the Western Union Telegraph Company. Reliable cheerful and well-mannered, he won promotion on his merits and friends wherever he went.

It was a step upward when Frank Scott was detailed to deliver Associated Press dispatches to the newspapers in Cleveland, the city in which he was born and in which he has always lived. The writer of this article, a police reporter then, knew Frank Scott in those ancient days.

Likewise, it was a promotion when Frank Scott was assigned to carry telegrams to the

general offices of the New York, Pennsylvania, and Ohio Railroad, now a part of the Erie system. Thus he learned, by and by, that an office boy was wanted by the freight agent; and he asked for the job.

"I'd give you the place," the freight agent said, "if you were tall enough to reach the wheel of our letter-press."

"Can't I stand on a box?" Frank Scott asked.

"You can and you shall," the freight agent replied.

In time Frank Scott became a clerk and presently a specialist in rates. At night he went to school; and a tutor at Western Reserve University taught him Latin, history and English literature.

When the Cleveland Chamber of Commerce created a standing committee on transportation, Frank Scott was employed as an expert on the subject of freights. Later, he was given the position of assistant secretary of the organization and still later the directors elected him to the office of secretary.

The Cleveland Chamber of Commerce is a large, forceful and influential body and includes in its membership the active business and professional men in the community. Frank Scott gained and held the respect and confidence of all of them. There has never been anything common or artificial about Frank Scott. A boy in the street, no one ever saw a cigarette protruding from his face, or heard a coarse word issue from his mouth.

Colonel Jeremiah J. Sullivan made Frank Scott secretary and treasurer of the Superior Savings and Trust Company, when he organized that enterprise as a sort of an auxiliary to his Central National Bank. Colonel Sullivan had been watching Frank A. Scott. So, too, had Worcester R. Warner and Ambrose Swasey. After three years in Colonel Sullivan's trust company, Frank Scott became an officer in the great establishment of Warner and Swasey, manufacturers of machine tools, astronomical instruments, rangefinders, gun-sights and so on. To-day Frank Scott is vice-president, treasurer and manager of the company.

Such, roughly done, is the picture of the chairman of the powerful War Industries Board—the board of boards, in America, that is helping civilization to strangle barbarism.

Judge Robert Scott Lovett, Who Weighs and Decides All Questions of Freight Priority

PRiority, by one of its definitions, means right of way. Spoken, it has a statutory sound. In itself, then, whether read or heard, it may suggest a railroad or a courthouse.

In the case of Judge Robert Scott Lovett, another member of the mightiest of war boards, priority is the word among all other words by which, professionally, he can be identified and described.

Picturing him in peace, it now denominates him in freedom's battle with the Prussians,

Who shall have coal first? Or copper? Or steel? Measuring necessities, both a strategist and an umpire, Judge Lovett names the factory, furnaces or mill.

Tall, martial in carriage and atmosphere; leather-like face slashed into lines by the battles he has waged and won; gentle of manner, magisterial in temper, diplomatic, far-visioned and an able geographer of human character, he has found the task that best fits him in this war.

A genial, agricultural smile, momentarily

To Make the World Unsafe for Autocracy

Frank A. Scott,
Chairman of the
War Industries
Board

Brookings' depart-
ment is finished
products



Col. Pierce represents
the army

Admiral Fletcher,
the Navy member

Judge Lovett con-
trols priority mat-
ters

Barney Baruch has
charge of the pur-
chasing

applied, occasionally, mellowed his judicial countenance. The tang of the South in his man-like voice. His nose is large, neither hooked, not bony, nor fat, and his slightly flaring nostrils, inlets to the lungs, indicate endurance and power. The eyes are brown or gray, changing with his moods; while the mouth is of the big and talkative type, only Judge Lovett does not talk, or make speeches, or write for the press.

Dominant above all the other features is a massive forehead, a Websterian brow, that gives visible signs of the intellect that gained the confidence and respect of Jay Gould, Collis P. Huntington and Edward H. Harriman. Usually, Judge Lovett wears a short coat of dark cloth, an opal stick pin and a fifty-cent necktie.

At the time, by my computation, that Benjamin F. Yoakum, organizer of the Rock Island-Frisco System, was driving a pair of bay mules and operating a scraper on the right of way for a new railroad in Limestone County, Texas, another youth, Robert S. Lovett himself, was digging stumps and cutting brush for another little railroad in San Jacinto County, about a hundred miles distant. Afterward, when the grading began, Lovett was a teamster like Yoakum.

The Civil War liberated the twenty slaves owned by the Lovett family and dissipated other property. William, the father, left the Confederate army when Lee surrendered at Appomattox. Going home, he ran a little mill for the grinding of corn and a gin for taking the seeds out of cotton. Robert was his assistant.

When the boy was eight, the mother died. The father, a positive character, and ambitious, prospering moderately at milling and ginning, planned that his son should be a doctor. So began another rebellion. The boy, counseling only himself, had resolved to be a lawyer. Law as a profession, William Lovett scornfully asserted, was, so far as he could observe, a licensed refuge for scoundrels.

Whether the light occurred at night or during daylight, Judge Lovett did not say. But the right of way welcomed him, and there, at the age of fifteen, among the trees and in the thickets, he slept on a bundle of straw, and from a tin plate and sewing a pickax from sunrise to sundown.

With the money he saved while grubbing and scraping a path for the East and West Texas Railroad through the wilderness, Robert Lovett paid his expenses for a year at the Houston High School. Then he moved to Shepherd, a hamlet on the railroad, and near the spot where he was born.

It is said that his versatile services as hostler, salesman and accountant netted him \$70 a month and board. By and by he was appointed station agent at Shepherd. He had helped to build the road; now he was to help run it. A promotion sent him to Houston, where he was a bill clerk in the freight office.

At night he studied law and Latin. In the only personal statement that he has ever given to the public—a sketch less than two inches long in a book of brief biographies—Judge Lovett says that he had private instruction, subsequent to his nine-month's course at Houston.

Coming to the bar at the age of twenty-two, after seven years of work and study, his own cashier and master, sound in body and character, he was sent to Cold Springs, the capital town of San Jacinto County as the local attorney of the same East and West Texas Railroad. He was at home again and victory could have been inscribed upon his banner had he carried a banner.

A dog killed by a freight train, brought him

into court for the first time. The owner, a farmer, sued for \$19.50. A justice of the peace heard the case. Under the law there could be no appeal to a higher jurisdiction, when the sum involved was less than \$20.

On the stand, picturing, under cross-examination, the tragedy between the dog and the locomotive, detail by detail, the farmer, challenged as to values, exclaimed, indignation mixed with eulogy, that his damage was greater even than stated.

"How much greater?" Lovett asked, almost, it seemed, unconcernedly.

"Well," the farmer answered, walking into the trap, but still believing that he was improving his tactics, "that dog would have been cheap at \$50."

The jury, also composed of agriculturists and anti-monopolists, returned a verdict for the amount claimed. Lovett, averring that the dog was more valuable than had been alleged, carried the case to a higher court on a writ of certiorari, where, on a review of the facts, the judgment was reversed.

Thereafter in San Jacinto County, the fame of Robert Lovett, as a learned and skillful lawyer, was secure. Step by step he won his way until he became the general attorney for

the whole line and the assistant attorney for the Texas and Pacific Railroad, then the property of Jay Gould.

For several years before he died, Jay Gould spent two or three months each winter in Texas. He had tuberculosis. The bulls in Wall Street called it bronchitis. Judge Lovett has never publicly expressed his views concerning Gould but Gould was the first national and commanding character with whom he associated.

Later he came into professional relations with Collis P. Huntington, a dreamer afoot and on the gallop most of the time. Thus he was enabled to subtract Gould from Huntington and note the difference. There came a day, however, when he added them, dreamer to speculator, and the sum of the two was Edward H. Harriman.

Lovett, with a large practice in Houston, bargained three years, it is said in Texas, with Harriman before removing to New York. Harriman, personally friendly, holding banks and capitalists only by the genius for making something out of nothing, found a counselor and a comrade, once Lovett was at his side.

And a successor.

Frayne, the Conciliator and Diplomatist, and also Man of Vision, Is the Labor Member

SITTING cheek by jowl with Capital on the board, is Labor in the person of Hugh Frayne (pronounced Fray-ne), a new and unknown man, nationally. Irish, in blood, shrewd, sensible, ready with words, but not too ready, diplomatic and conciliatory, Mr. Frayne travelled the country successfully for many years as an organizer under Samuel Gompers and was then stationed in Philadelphia.

In 1909 he was transferred to New York. He has been active since then in all of the labor controversies that have occurred in that city. It is said, however, that his special genius is to prevent trouble, rather than to begin or commence it.

Hugh Frayne must measure about five feet and four inches in his stockings. He was dressed in blue, when he talked to the interviewer, and wore patent-leather shoes. His dark gray eyes are without guile or vanity. He has the short nose of a fighting man and the chin of a judge whose decisions are handed down without uncertainty or useless regret.

An Irishman, he has dealt in New York with Jews and Italians, with Russians and Hungarians, and has handled his races wisely and even satisfactorily to themselves. Mayors of the city ask him to act with civil bodies and churches of all denominations call on him for his views on social questions.

"I went to work when I was eight years old," he said, "at a breaker in Scranton, picking slate from coal. It wasn't really necessary for me to do so but such was the custom in those days with the children of the poor."

"The only schooling I ever had was during one term after I was seven years of age. I remained at the breaker until I was twelve, when I became an apprentice in the metal-man. I worked for wages until 1901, in which year I became associated with the American Federation of Labor."

The workers of America are fighting the Prussians on every field of battle, industrial and military, Mr. Frayne says, but they do not want their standards lowered while they

are so engaged. By standards, he means conditions.

"England," quoting his words, "called thousands of its skilled wage-earners to the colors. The overstrain put on the others almost resulted in disaster. No man can toil at top speed for twelve hours a day and last. In a few years he is scrapped, along with broken down machinery."

"Eight hours a day, six days in a week," Mr. Frayne went on to say, "will produce all that is required by the United States, provided the men who superintend the work understand what they are about. A competent foreman, and lots of foremen are not competent, will turn out more product with twenty-five workers than can be turned out by fifty who are directed by a foreman who is ignorant of human nature and the business he is supposed to understand. Efficiency begins with a satisfied shop."

"In your dreams," the interviewer asked, "what good things do you see ahead for labor?"

"What I see is more substantial than a dream," Mr. Frayne answered. "It is tangible and can be touched, if out of reach just at the moment. A business man who is prudent and understands what he is doing works twenty, thirty, or forty years and accumulates enough to live thereafter in the manner to which he has been accustomed."

"When the man of business whom I am using as an illustration started in life possibly with borrowed money, an acquaintance, perhaps a friend, also set out upon his long and uncertain journey. But the second man began at the bench of a mechanic. He worked well and faithfully and brought up a family—sons and daughters who were of value to society."

"At the end of twenty, or thirty, or forty years the mechanic discovers that he has little more, materially, than he had when he ceased to be an apprentice and was recognized among his associates as a competent journeyman."

"Illness, idle days for which he was not accountable, and the rearing of his children

made the accumulation of property impossible. So at fifty, or sixty, or seventy he has nothing but a worn body and a dreary outlook. There is no rest for him. And, being old, work may be difficult to obtain.

"Now, I think conditions should be such

as to permit a sober and reliable worker to accumulate a competence for his old age that he, too, may live in the manner to which he has been accustomed.

"Such is my vision," Mr. Frayne said, "but it is not a dream."

Brookings, Quaker and Peace Advocate, Who Would Gain His Ideal by Licking the Kaiser

GLOOM was in his face and anxiety was in his voice when the principal and proprietor of the school in Baltimore addressed his pupils.

"Boys," he said, "the Yankees are about to attempt a passage through the city. The railroad track at the canal bridge has already been obstructed. I want you to go to your homes and stay there until the trouble is over."

The boys solemnly left the building—and then hastened to the bridge as fast as highly stimulated young legs could carry them. A mob had gathered. When the Sixth Massachusetts regiment and the troops of the Seventh Pennsylvania opened fire, the boys of the Morgan School accepted the counsel of their principal just as promptly as they previously had rejected it.

Such was the introduction of Robert Somers Brookings, then aged eleven, to wars and their sensations. Six and fifty years later, riding on horseback with his brother, on a camping trip through Glacier National Park, in northern Montana, the small boy, grown to be a wealthy and famous man, was stopped by a telegram from Washington.

"You are asked," read the message in effect, "not in language, 'to call on President Wilson at the earliest moment possible.'"

The railroad was sixty miles distant. Nevertheless, Mr. Brookings, within four days, registered at a hotel, not more than three blocks from the White House; and learned, a few hours later, that he had been conscripted for service on the great War-Industries Board.

So reads the military record up to date of Robert S. Brookings, a Maryland Quaker by descent and a trustee of the Carnegie Peace Foundation, to which also belongs no less a warrior than Elihu Root himself.

Broadly, the work of the War-Industries Board is divided into three parts, namely, raw materials, finished products and the priority of the delivery of the latter to the places where they are most needed. Mr. Brookings deals with finished products—guns, ammunition, tents, clothing, shoes and so on. His is the duty to see that they are manufactured, according to contract, and that the prices to the government and to the allies of the United States are not unreasonable; also that the usual industrial and commercial business of the country be maintained without unnecessary disturbance.

The writer talked with him in his office, at ten minutes past 8 o'clock in the morning. A tall and stalwart man, white haired, brown-

eyed, with his beard shorn close to his face, he is, though his hours are long and his work enormous, the picture of health, strength and earnestness. To the three big nouns just named may be joined still another—benevolence.

Leaving his home near the waters of Chesapeake Bay when he was seventeen, he followed an elder brother to St. Louis. A company of merchants, Cupples and Marston, gave him employment.

The boy, remember, was seventeen. His compensation by the month was \$25. In exactly three years he was taken into the firm as a partner. He did not come of age until nearly thirteen months later. In all, he was connected with the original company and the succeeding corporation for twenty-six years. Then he retired with a large fortune.

Since 1896 he has been president of Washington University in St. Louis, and not only its president but practically its rebuilder and refunder. He has given it hundreds of thousands of dollars in money and, with Mr. Cupples, his partner, valuable business property that constitutes its principal source of endowment.

"How do you—a Quaker and member of a peace foundation—reconcile yourself to service on America's war board?" Mr. Brookings was asked.

"I'm for peace," was the reply, "but the shortest way to peace is to lick the Kaiser!"

Baruch, the Buyer, Battles the Foe Which Had Oppressed His Father

IT would seem, following logic, in a dearth of facts, that the first commercial transaction between man and man was started by the purchaser, who, seeing something that he desired, a stone axe, or a bull's hide, or, possibly, a wife, offered a price.

In this fashion, perhaps, was initiated a practice out of which has grown fleets upon the water and huge enterprises upon the land.

Buying, if the hypothesis here stated is sound, inaugurated business, and, therefore,

both historically and naturally, ranks above selling as an art. The seller knows his animal, field or product—what he paid for it, in one way or another, its habits and qualities. In advance, usually, is with him.

The buyer must trust either to the integrity of another or to a knowledge which he may or may not himself possess. Selling always follows buying, as, for example, with the merchant or the manufacturer. Restating what has heretofore (Concluded on page 52)

What Does It Cost? If You Really Know; You Are Better Equipped To Compete Intelligently in Domestic and Foreign Trade, as Well as To Readjust Your Business Under War and After-the-War Conditions

By CLINTON H. SCOVELL

AIRPLANES, we are told, will win the war because they are the eyes of the armies, and get information not to be secured in any other way. The military commanders who have the most information can deliver blows where they will be most effective.

The reasoning is the same and the facts are similar for the industrial manager. He has a precious stock of executive energy in his own person and among his assistants. He has at his command, plant, equipment, and capital invested in inventories and other current assets. His success depends on using these resources effectively, and such effective use depends, in turn, on good judgment and accurate information.

Now, the cost accounting is primarily information. In an industrial enterprise its purpose is to guide the executive to profits and other tangible results of good management, and it is generally true that those executives are most successful who have the best information.

It is easy to see why this should be so when one appreciates what information a good cost system can provide and how it can be used.

One conspicuous use of good cost accounting is for intelligent price making. Financial success in any manufacturing business, reduced to lowest terms, is getting more for the product than it costs to make. It seems obvious that accurate knowledge of costs should be a great help in maintaining the desired margin, and a good cost system will place such information before executives promptly, regularly, and in a dependable form. A great deal of manufactured product is now sold at less than cost, or at an unprofitable margin over cost. Under such circumstances, the manufacturer who fails to make a profit suffers from lack of knowledge of his own costs.

The greatest value of a cost system is not, however, in price making, but rather in the means it provides for business self analysis.

This works out in several different ways in different kinds of industries.

In most establishments there is opportunity and need for the analysis and distribution of overhead expense or burden, to see how much of the expense is necessary, and then how it bears on the product manufactured. Many a manufacturer gets his labor and material costs with satisfying accuracy but goes wrong in reckoning burden.

IN the first place the burden should be separated between elements that are fixed, such as insurance, property taxes, and interest on investment, and items that are variable, such as indirect labor and supplies; and the closest watch should be kept on the variables to see that they are consistent from period to period, and sustain a proper relation to the direct labor employed, or to the volume of product.

It is to be expected that every business will make some effort to analyze burden costs in this way, but the regrettable fact is that few

executives get such an analysis as well done as it should be, and accordingly few get anything like the maximum of economy which might be attained by this kind of administrative control.

Having secured information as to what makes up burden, and having established plans to control the variable elements and keep them at a minimum, the next step must be to determine how much burden belongs to one department or another, and how much to this or that article. Burden cost rises on any product, when that product uses more costly manufacturing facilities (either more space or more equipment), or when the process is prolonged, thereby tying up the capital employed for a longer time.

THE principle of including interest on the investment although recognized as fundamental when stated in this form, is rarely given adequate expression in industrial accounting. To do so requires a calculation of interest on investment as an element of cost, and obvious as this requirement is for sensible and useful cost accounting, its importance is not generally understood, and the idea is actually combatted by many accountants who ought to know better. There is therefore a distinct tendency in shops with varying product to underestimate the burden cost of articles utilizing extensive and costly equipment, and to overestimate the cost of product made by hand or with lighter equipment. This tendency alone has accounted for a great deal of product being made without sufficient knowledge of costs, and accordingly sold at unnecessarily low prices.

The self analysis of a business made possible by a good cost system extends to labor and material cost as well as burden. When work is done on a dependable piece work system, the direct labor cost is a known quantity, but relatively little manufacturing labor is on this basis, and there is accordingly endless opportunity to analyze direct labor cost by well proved methods. The experience is almost universal, when work tickets are put into operation for the first time on products made by day work, that the executives have some emphatic surprises as to the actual or relatively high cost of certain items which they have been making. It is human nature to be careless about items that are not strictly accounted for, and it has happened recently within the writer's experience that the mere installation of a dependable system of labor and output reports has immediately stimulated a marked increase in production.

The third element of cost (burden and labor having already been mentioned) is material. In some industries the opportunity for waste and inefficient use of material is little short of amazing. The only way to stop this loss is to keep track of the quantities on-hand and consumed. Such records are furthermore an aid to intelligent purchasing, particularly as to quantities, and enforce the lesson that the great high road to success in most industries is to stop leaks and waste, and have what is consumed

really count for its full value in the product.

The accounting for material becomes more important and more difficult with the increasing size of a business. When the quantities, varieties and uses for material have grown beyond the personal knowledge of an active manager, there is no alternative but to put the

admit of any conclusive comparison. If piece work prevails in the industry, or if operations are clearly defined, they may make a fairly useful comparison of labor costs; and they frequently satisfy themselves with the assumption that they buy their materials in the same market, and more or less at the same price.

There is usually no agreement whatever as to the classification of overhead charges or burden, or what is of more consequence, how this most important element of cost should be applied to the product. Even those establishments that have made some effort to develop an accounting practice are handling their cost charges in such diverse ways, that they suspect each other of selling goods at less than cost; or, not having any proof that their own cost system is dependable, they argue that if another manufacturer can afford to sell an article at a given price, they also can afford to make it and sell it at the same price.

COST accounting is really interesting the government, since it has outstanding contracts under which it is to make payments according to the contractor's costs, with a percentage added for his profits.

To be sure, such duties as administration of the income tax and regulation of railways have at times made one or another agency of the government arbiters upon many questions of costs. The government's own bureau of efficiency has had its eye upon costs. The Department of Agriculture has been recommending systems of costs for grain elevators, cotton warehouses, and the like. Besides, in connection with contracts let some months ago for naval vessels on a basis of the private builder's costs of construction, the Navy Department has a Compensation Board which does a deal of figuring with the builders. Before the Tariff Commission was created, the Bureau of Foreign and Domestic Commerce had for several years revived the activities which the Labor Department conducted in the nineties, by examining into the costs of production for pottery, clothing, sugar, and other articles upon which our customs duties fall. Until last winter, however, the Federal Trade Commission was the chief advocate of cost accounting, urging its use in all branches of industry and trade as a means for preventing unintelligent competition.

The war has focused much attention upon costs. Whenever prices are challenged as extortionate the fact of the matter turns upon accurate accounting. The Food Controller in England has recently had to establish a cost-finding bureau to ascertain the basis upon which he should fix the prices the public is to pay. As for ourselves, the government has bought large quantities of supplies at prices which are to be determined later in accordance with the actual cost of production.

For such a function we already have the nucleus of an organization, in the activities which the Federal Trade Commission has transferred to the Bureau of Foreign and Domestic Commerce. In August, the Secretary of Commerce asked Congress for \$65,000 with which to enlarge the organization to a size commensurate with the demands that are made upon it. The Navy, as a check upon its own calculations, wants solved some puzzles in the treatment in costs of the depreciable property and the charges for reserve funds in some fourteen shipbuilding yards. Purchasing officials of both Army and Navy ask the facts about the costs of canning milk and sixty-odd vegetables. The Food Administrator desires the exact costs of fifty different products. Trade associations for at least thirteen industries are asking review and criticism of their systems of cost-accounting, under which they will arrive at the prices they are to receive in selling large quantities of materials to the government. It seems perfectly clear that cost accounting that is real, and that is uniform in its principles, is gaining a new place in our business life.—Editor.

whole matter under a systematic clerical control, which will automatically provide the means for the supervision which, in a smaller plant, can be made effective by personal attention. Good cost accounting, however, is not wholly a matter of profit to the individual manufacturer. He may be driven to an analysis of his labor, material and burden costs by evidence that a competitor is sustaining lower prices at a profit. The competitor, on the other hand, may be making prices unprofitable to himself as well as others. If this appears to be the fact, there is no argument more effective to turn him from such a course than some tangible figures as to what such articles have actually cost to manufacture under similar conditions in another plant. Such an exchange of information frequently converts a bad competitor into a good friend, and benefits other manufacturers and consumers as well.

Whenever two or more manufacturers of the same product attempt a discussion of their costs, they usually find that their cost accounting methods are not enough alike to

The way to dispose of the unhealthy competition, and the ill feeling and suspicion, that frequently exists between competitors is to make a frank comparison of costs on typical items. There would be more of such comparisons if manufacturers only realized how much they could accomplish in this way.

The "open price" policy, or interchange of sales prices, is an important help to a better understanding and usually to better profits in an industry, but useful as it is, it is far less fundamental and permanent in its effect than getting dependable costs. It is essentially the difference between a good liniment to soothe pain, and right living to eliminate the cause. As right living is not entirely an individual problem, but depends on neighborhood action on such fundamentals as pure water, adequate drainage, opportunities for recreation, etc., so there is a need for joint action among manufacturers in the same industry to establish a plan for uniform cost accounting in their line of business.

In defining the details of a uniform cost system, there should be an especial emphasis

IN every industry, some of the manufacturers undoubtedly feel that the price of the product is kept down by unintelligent competition from those manufacturers who are not making money, primarily because they are selling their product at less than it costs to manufacture. This may be due partly to different methods of figuring, so that the manufacturer complained of may in turn be thinking of others as price-cutters on some particular item.

placed on such matters as depreciation and interest on investment. And the important need for getting all expenses reckoned into cost. Something can be accomplished by even a uniform classification of accounts, but this is only part of the story, because a cost and accounting practice should be so developed that the executives may have each month both a manufacturing and trading statement and a balance sheet in a dependable form. The two things fundamentally necessary are to define in common terms the underlying principles of good cost accounting, and then to develop methods and make application of these principles adapted to the needs of the particular industry.

It is obviously a wise war policy to hunt down and put a stop to all sources of waste, but such a course of action, although less urgently necessary, is none the less appropriate in a time of peace. Americans have been ingenious and resourceful, and they have been surrounded by such limitless natural wealth as to insure a widely diffused material prosperity with relatively little effort. As the natural advantages are being more and more generally appropriated and brought into use, it becomes necessary to consider and adopt the methods that have brought industrial success in Europe, particularly in Germany. There must be a more thorough, scientific utilization of material. The results achieved in every department of industry must be more carefully measured against the values consumed. The wise guess and "rule of thumb" must give way to laboratory methods and an exact accounting for costs and results.

EVEN more important than the use of material resources is probably the organization and utilization of our man power. The disgrace of poverty, ill health, ignorance, drunkenness and vice undermining the industrial strength of the nation must be removed. This result is not to be secured by a legal mandate, on a mere promulgation of a reform in management. It is, rather, to be achieved only by a long process of education.

As far as this necessary educational progress is part of the industrial development of the country, it implies on the part of executives and managers a different attitude toward the labor forces than they have generally adopted heretofore. In the first place employment must become a much more systematic and intelligent process. The terrible waste of labor turn-over which now exists is but dimly appreciated and only here and there has adequate effort been made to stop it.

After workers have been more intelligently selected, they must be better treated in order to realize anything like their full efficiency. This may mean shorter hours in some cases, although the movement for a shorter working day has already made great progress. It will not, however, mean less production, and the mistaken efforts of trade unionists and others to curtail output must of necessity fail in the long run. It may be necessary, and it is certainly coming to be regarded as desirable by more enlightened manufacturers, to give the labor forces more consideration and perhaps some actual participation in the factory administration, that is, in the actual settlement of shop and factory problems.

Profit sharing is frequently mentioned as an important factor in present day management. It is, however, a general rather than a specific remedy. Properly conducted, profit sharing should be conducive to good will and harmony between employers and employees, and in that respect it will eliminate friction and operate for the benefit of all concerned. Irrespective of profit sharing, however, there is a duty on the American manufacturer to study his re-

sources, establish standards of output, make just compensation for work done, and provide suitable incentives to make the total production as great as possible.

These problems of industrial engineering are just as imperative upon an intelligent executive as the proper utilization of steam or water power, the economical consumption of material, wise purchasing, or any other better understood phase of management. He must see to it that the facilities at his command are appropriately utilized, and that production is not curtailed by such unnecessary obstacles as defective routing and scheduling of work, congestion of materials in work rooms, and other obstacles which are generally found in American industrial establishments.

If our manufacturers can meet these duties, and rise to these opportunities, our industrial leadership will be secure.

One Throttle for a Thousand Trains

(Concluded from page 14)

for weeks. The problem of the six car service committeemen was to clear the railroads of stagnant freight and to provide means for the prompt handling of the new business created by a new situation. Their task was simplified somewhat by the fact that all of the railroads were, for the time being, to be operated as a single continental system.

Investigation showed that the average run of a freight car per day was 25 miles; that the average capacity of box cars was 39½ tons but that the average load per car of revenue freight was only 15½ tons, or 43 per cent.

Orders were promptly issued by the War Board to speed up the cars and to load them 10 per cent above their marked capacity. An increase of five miles a day in the run of a freight car, it was shown, would add the equivalent of 515,000 cars to the equipment of the railroads.

A LOCOMOTIVE is run an average of 75 miles a day. If the distance were increased 15 miles, the equivalent of 13,300 locomotives, the car service commission pointed out, would be added to the power equipment of the railroads. Ordinarily about 15 per cent of the locomotives are undergoing repairs. Were the percentage reduced a third, the commission said, it would mean an addition of 3,325 locomotives to the nation's transportation service.

With these facts before it, and with others just as surprising, on which to base a calculation, the War Board declared that by the heavier loading of cars and a speeding up of the trains, as well as the repairs on engines and all equipment, it would be possible to increase, practically, the number of cars in use by 779,000 and the number of locomotives by 16,625. In detail, quicker repairs would add 64,000 cars; quicker movement would add 515,000 cars and heavier average loading would add 200,000 cars.

Up to within a short time freight that could not be moved at once was often loaded into cars and the cars held on the tracks waiting for a hole in the dam. That practice has been stopped. If a man in Chicago, or at any other point, offers a carload of export freight for shipment to New York or Boston, he must now show documents that a vessel is ready to take the freight across the Atlantic. No longer is he permitted to choke eastern terminals while watching for a ship that may or may not give him cargo room.

The work of the War Board brought about immediate results. Trains, even in April, began hauling larger loads. The increase to

the trains was 66 tons, or almost 2½ tons to the car, compared with April, 1916. Pennsylvania, Maryland, the Virginias, Ohio and eastern Kentucky increased their coal shipments 55,480 cars. The increase in Illinois, Indiana and western Kentucky was 76,134 cars.

IN May, as against the same month in 1916, the eighty-two principal coal-carrying roads increased their shipments 7,100,000 tons. Coal was one of the earliest subjects taken up by the War Board. The war, it was understood, could not be fought without coal—larger quantities than ever and a more expeditious handling of shipments from the mines to the mills and factories.

Second in importance, in the view of the War Board, came iron ore. Coal for steam, for driving machinery; iron ore for cannon, ammunition, ships and so on. "The facts ascertained," Mr. Elliott stated, "have established the conclusion that the national situation and the welfare of the country make it imperative that every energy of the railroads must be continuously exerted to move daily the maximum of coal and iron ore in distinct preference to all other commodities."

"In all cases," Fairfax Harrison told the railroad men of the country, "keep the cars moving and settle differences of opinion afterwards."

And if the railroads hesitated or failed to perform their duty, (a warning read) they would be promptly and effectively disciplined and the names of their officers published to the country.

The whole power of the War Board was centered on coal. Every car, every engine, every track, every appliance, every man, was to do more work. There was to be no wasting of cars, no more using them as warehouses for days, often for weeks, while shipments accumulated enough coal to fill a vessel. Coal was to be pooled, both for the Northwest and New England.

Although the main effort of the War Board is to keep the manufacturing industries supplied with fuel and materials, the consumers of food and clothing, of shoes and household furniture and of all the daily articles of living are not being overlooked. What is called general business is receiving painstaking attention.

Luxuries, however, are being cut from the scheme of transportation. If they can be hauled, all right. If they can not be hauled, no one worries. At the suggestion of the War Board, hundreds of unnecessary passenger trains have ceased to run. The engines are now pulling freights and taking soldiers to their camps and to Atlantic ports, where they embark for France.

There are to be thirty-two cantonnements in the United States. The large ones will each have accommodations for 40,000 troops. The transportation of that many men will require 3,114 cars, made up into 183 trains—1,056 passenger cars, 192 baggage cars, 528 box cars, 950 stock cars and 388 flat cars.

Some of the laws of the nation and some of the laws of the states "to get a maximum of service," as Howard Elliott phrases the matter, have been violated, but the railroads are showing what can be done "when strict regulation," again to quote Mr. Elliott, "does not cripple their efficiency."

PERISCOPES have been designed for sighting the Lewis guns carried on armored motor cars for dispatch purposes. Three periscopes will provide views for the drivers both ahead and behind and along the sides of the car. The driver while completely inclosed can yet witness every action outside the car.

Man Takes a Look at Himself

MAN once more appears as the most interesting study for mankind.

This is one of the results of war. There was some danger that machines and things would overshadow man in the interest they create. War discloses machines as more wonderful than we had ever supposed, but it also brings forward, in a high light, the individuality of persons and the characteristics of peoples.

The piquant question of the hour is, what manner of man is this? It is the question in Russia, in Japan, in China, in Australia, in France, in England,—wherever you please! The second question is, what is the spirit and the hardness of this people? Whether it is the Finns, the people of Russia as a whole or the Cossacks, the Bulgarians or the Roumanians, the Greeks or the Italians, the Spaniards, the Dutch, or the Mexicans,—this is the question which is causing people to search through books and read every traveler's tale, in a search for some estimate that will give a clew to the course of future events.

Altogether, there were never so many men, and so many peoples, that were at one time of such deep and serious interest. This interest is reciprocal, too. The new attention we give to other parts of the world is being energetically returned.

The New Statesmanship

PRICES are incorrigible. They troubled the world in the years of its extreme youth; as it waxed in conscious power they consistently defied control, wholly regardless whether a Roman emperor or a vandal king made pretense at determining the course of mundane affairs; and to-day prices are setting the people of the earth by the ears, quite after their unregenerate fashion.

Perhaps nothing else is to be expected. Prices are extremely complex things. Nothing short of omniscience can arrive infallibly at the exact prices the conditions of a moment warrant,—conditions of supply which have ramifications, not only into all the human traits of forehandedness and desire for gain, but also into all manner of unexpected questions of habit, personal idiosyncrasy, and religious vagary; conditions of demand which involve the prices of all other articles which humankind desires to buy or sell; and the thousand and one things that serve to enlarge or contract the very measure of value itself, after supply and demand have been adjusted. As a matter of fact, omnipotence would have to be joined to omniscience, if prices which are exactly correct were to be ascertained; for the process would involve final judgment upon all human affairs, correction of all the wrongs of the world, and dispensation of justice as between man and man.

The task has not always daunted persons in high places. The rulers of ancient Babylon tried their hand. Egyptian princes did likewise. Sixteen hundred years ago Diocletian promulgated the prices which could be charged for well-nigh everything in the Roman empire. A barber and a sheep-shearer could have one cent for clipping a man or a sheep, a teacher twenty-one cents a month for a pupil, a camel-driver three and a half cents a mile for a load of six hundred pounds, a farmer six cents a dozen for eggs, seventy-five cents a bushel

for barley, five cents a pound for beef, and nine cents for a sheepskin, a shoemaker thirteen to sixty-five cents for a pair of shoes, and so on. Although the penalty for charging more was death, and the penalty was actively imposed, the imperial scheme went to pieces because of forces it ignored.

Our own forefathers had little better success at the time of the Revolution. The Continental Congress recommended that the colonies regulate prices. In 1779 delegates from New England and New York resolved that prices should be limited to the level of 1774,—i. e., the "pre-war" period. In those days, a good share of the difficulty came from depreciated currency,—a situation recognized by Noah Webster, who declared picturesquely, "It is no more absurd to attempt to impel faith into the heart of an unbeliever by fire and fagot, or to whip love into your mistress with a cowskin, than to force value or credit into your money by penal laws."

BUT times have changed. The world has a war of a magnitude beyond the expectation of military experts, except as they had exercised their ingenuity by plotting out on paper theoretical possibilities. This war has involved the industrial resources of the belligerent countries. Its fortunes have turned more than once upon the skill of men at distant forges and lathe, or upon the rivalry of farmers working in fields on opposite sides of the battlefield and far from its incessant roar. Governments have entered the markets of the world seeking every sort of commodity in quantities such as no purchaser ever took before. In order to obtain supplies upon which military success depends, governments have sometimes had to control private purchases and use. Even when they have not taken this step they have left supplies which are inadequate for the needs of ordinary industry and commerce.

This is a new state of affairs. Fortunately, there is a new governmental attitude, too. Imperial fiat regarding prices are no longer likely. The temper of the day recognizes in questions of prices problems which demand the highest order of statesmanship supported by practical experience and by all the knowledge and skill laborious study of economics and finance has accumulated over centuries. This is a new statesmanship. It is the statesmanship of business. It considers the manifold arts of production, distribution, and exchange in their relation to the fate of nations. If Adam Smith could return to earth he might set to work refurbishing his century-old Wealth of Nations in the belief the millennium has come in the midst of a military cataclysm. The rest of us might not altogether share his confidence, but when we can turn aside from the immediate tasks and perplexities of the moment, we can observe that the course of events is highly interesting.

Next—the Soapless Bath

SOAP must be extremely potent, if it is in reality a civilizing agent; for it comes in for almost as much notice as a munition of war.

The secret of the publicity of soap lies in the fact that it is made from fats, and everybody has now been informed that fats have a highly important place in the economy of a nation

ON'S ESS

and of the world. More ways than it is convenient to shake a stick at have been devised for getting soap

into Germany. There the fats that may be used in soap have been greatly decreased by governmental authority, and in order to keep down the use of fats in soap the same authority has permitted the price to soar; laundry soap that is pretty well down to the minimum of soapy content fetches seventy and eighty cents a pound. Toilet soap is a luxury for the ultra-rich.

Our own soap-makers are getting worried. After discovering that colonies were supplying the German oil-crushing industry, the British government has now attained the control over about thirty-five per cent of the vegetable oils used in making soap, and has been keeping a pretty tight hold on them. Besides, ocean freight rates have added to the cost of the oils,—cocoanut, palm, soya bean, and the rest. As a climax Spain has placed an export duty on olive oil. We may all have occasion to recognize the importance of soap, and perhaps have to devote ourselves to the varieties which can be made from cottonseed oil and other domestic supplies.

Fate, Castor Oil, and the Farmer Boy

CASTOR OIL has already had a highly useful but unpopular place in the development of the American nation.

By an irony of fate the American farmer boy is to be asked to increase the supply of an article for which he has only dislike and contempt.

In this instance cause and effect run about as follows: Castor oil is the best lubricant for the motors of aeroplanes. A great fleet of planes is part of our immediate program. Castor beans have come mainly from India, but England monopolizes that source of supply for her own air fleets. Therefore, bodies of no less authority and dignity than the Council of National Defense and the Department of Agriculture look with pleasure upon the crop of castor beans the United States will have this year and ask the American farmer to do still better in 1918.

Squeezing Mother Earth for More Power

POWER makes our world go round, both figuratively and literally. It may be steam power, electric power, or the power of internal-combustion engines. It drives the great mechanical apparatus which has been contrived to bear the heavier burdens of industry and transportation.

Every belligerent nation has been seeking more power to support war. France has found time to complete a tunnel through a mountain in order to operate a large hydro-electric installation. England has not only planned to link together by districts the plants which develop electric power, but has limited the use of gasoline until the era of bicycles has returned, and has undertaken the direction of coal mining; every "steam raiser" has to tell the government on paper the exact amount of special coals he requires. Among the problems Russia faces is the question of sufficient fuel to keep its railways in operation.

Power is nowhere more essential or more developed than in the United States. Ever since Alexander Hamilton busied himself with developing water-power on the Passaic river, and Washington worked on a pretentious

scheme at the falls of the Potomac, we have sought for mechanical power. One hundred thirty million horsepower is probably a conservative estimate of the present development. Of this great aggregate of propelling force, almost two-thirds come from steam, a fourth from water-power and the balance from internal-combustion engines. Over 50,000,000 horsepower are used on steam railways, and fully 25,000,000 in manufacturing.

THIS year our mines may produce 660,000,000 tons of coal, and the larger part will go for development of power. All the rest of the world may produce only as much again. Even so, the need for power and the difficulties of transportation make attention to economy in the use of coal a matter of sudden importance. Many of the railroads have been giving firemen special instruction in ways to get the maximum of properly directed heat out of each shovelful of coal. Manufacturers who, when the cost of coal represented but three or four per cent of their total costs, gave little heed to what went on in the fireroom, will now take notice of the handling of their coal, quite as they watch the use of the wool, the steel, or the other raw products that enter the processes from which they get their finished articles. They may look to the economy of the equipment that uses the steam, to see whether the plant uses forty pounds of steam an hour to develop one horsepower, whereas a new engine might run on less than twenty pounds. The fact is, economy in the use of fuel has become so important that the quack has discovered a new field; he usually offers a chemical which, upon being dissolved in water and sprinkled on coal, is to produce most wonderful results. Before purchasing, any canny user of coal will find out what price he is asked to pay for such chemicals as ordinary salt.

PETROLEUM, too, like the supply of coal, offers a whole series of problems. Admonitions of a decreasing production have been earnest. At the same time, the most direct machinery of war,—the artillery,—demands unheard of quantities of the lubricants derived from petroleum, and gasoline is one of the precious possessions over which separate wars might be fought. In the twelve months which closed with June the United Kingdom alone obtained from us 113,000,000 gallons of lubricating oils and 150,000,000 gallons of gasoline and naphtha. Meanwhile, Pennsylvania crude petroleum has gone well over three dollars a barrel, and is higher than at any time in forty years.

On the one hand, there are difficulties in increasing the production of petroleum and, on the other, ingenuity in enlarging the amount of such of its products as gasoline. From the oil fields come stories of the impossibility of obtaining pipe to case the wells, and drillers even at ten dollars a day. At the same time, natural gas is being made to give up the gasoline it carries; vacuum pumps are applied, and in nineteen sixteen 200,000,000 gallons of gasoline were obtained from gas through which in earlier years it largely went to waste.

The pressure for power, and still more power, is a sign of the times. Its development and application have not yet reached their acme. The necessities of war itself may provide us with new devices for getting power and utilizing it.



president of the board. But that does not concern me so much as the consideration of the fact, who paid for that advertisement? I do not know who has been more interested in belittling Mr. Denman than the great Steel Corporation of the State of Pennsylvania represented on this floor by Senator PENROSE. When he says that there is no use of pronouncing obituaries, I beg to submit that it is a very live question whether this Government shall be controlled by the Steel Corporation, with its enormous capitalization of over a thousand million dollars, making enormous profits, sufficient if employed by designing and wicked men to overturn the Government of the United States by the ordinary processes of corruption and bribery, and when it is used to destroy a man who I believe was rendering faithful public service in the interest of the Government and not in the interest of the profiteers, then, I say, will may the Senator from Pennsylvania, the representative of such a community embracing such a corporation, be moved to stigmatize this gentleman as unworthy of even a mild defense, expressed in his own language, until I was provoked, against the machinations of such powerful interests.

MR. HARDING, OF OHIO. I am very much impressed by what the Senator from Nebraska is saying, and I am not sure that I may not have to change my attitude toward this fall if the statement which the Senator has just made can be well substantiated. I am not seeking to cast any reflection upon the Senator's argument, but I want him to verify and to point out the corroboration of the statement just made, to the effect that thousands of men in this country, who were heretofore living comfortably are started in the face by the necessity of going to the almshouse.

MR. NORRIS, OF NEBRASKA. Well, I know dozens of them, and there will be many more of them this winter, who heretofore never thought of such a thing, who will suffer from hunger and cold unless conditions materially change. I tell you there are thousands of families—millions of families, I believe—in this country to-day who will suffer before spring from hunger and cold unless relief comes.

MR. HARDING. Will the Senator name a specific instance?

MR. NORRIS. The Senator desires a specific instance. I do not want to refer to things personal, but I know personally a good many instances, and I am going to tell the Senator of one.

MR. NORRIS was in one of the stores for the Dutch Market Co. in this city with a basket on her arm buying a few groceries. She asked for 10 pounds of sugar and bought it. There was standing by her side another woman, well dressed, intelligent, nice-looking, who, when she saw her purchase 10 pounds of sugar, exclaimed that she wished she could buy 10 pounds of sugar. She said, "How can you afford, how can you get money enough at one time, to buy 10 pounds of sugar and have the cash for it all at once?" Look in my basket; there are 2 pounds of sugar—all I can buy at one time." There were several other small packages of other groceries which she had purchased. She then said, "My husband gets \$1,000 a year; he has had from \$1,200 up to that for a number of years. We were saving some money, not so much as we would have saved if we had known these hard times were coming on; but we have five children, all of them small, and we are never able now to buy 10 pounds of sugar at once. If my husband were to get sick, if one of our children should get sick, I do not know that we would do." Their ability to live within their means depended upon the entire family—husband, wife and children—maintaining their health.

MR. LEWIS, OF ILLINOIS. Mr. President, I may startle you to tell you that there in the Treasury Department at this hour while I am speaking is the established proof of \$300,000,000 swindled out of this Government by perjury, fraud, deception, and different forms of commercial and personal trickery under the income-tax returns. There has been more ingenious lying, deliberately perpetrated to the face of the representatives on the Finance Committee from time to time by men touching their incomes than could be conceived

as could come from men of honor or men of business standing. Men who would shrink from petty lying in the ordinary affairs of their lives and who hold themselves up as worthy of the approval of their fellow man in the communities where they live, who sedately march in solemn procession behind the collection plate through the aisles of the holy church of God, carrying with them the atmosphere of, "Behold, how much holier I am than thou," will promptly come to that Sunday service to this body of men, and, under the guise of business necessity, justify a form of lying which in other forums would subject them to the charge of perjury and to the pains and penalties thereof.

MR. POMERENE, OF OHIO. Several weeks ago I was waited upon by a very debonair gentleman in the marble room. He approached me with this proposition: The Government ought to conduct its business upon a high business plane. I was in hearty accord with that suggestion. I was a little curious to know what the business proposition was which he was

A gentleman going to present to the United States Senate. It was a most interesting proposition, and it was in substance that there would soon be another issue of liberty bonds amounting to several billion dollars and that the Government, which is now straining every nerve in order to win this war and to pay the expenses of it, should not have this advertising done in the way in which it was done during the last loan campaign, but that it should pay to the publishers of the country \$3,000,000 in order to advertise the bonds which we are selling for their safety as well as ours. I suggested that I would not have any objection to his proposition on one condition, and that was that they conduct their business with the Government on a business plane and pay for the service that they have been getting for so many years from the taxpayers of the country.

MR. WINGO, OF ARKANSAS. Mr. Speaker—

THE SPEAKER. For what purpose does the gentleman from Arkansas rise?

MR. WINGO. With the permission of the Speaker of the House, I would like to ask the gentleman from Texas [Mr. GARNER], whom I presume for the time being is majority leader de jure as well as de facto, what is the prospect for the Senate catching up with the legislative program so that the House can

resume business and clean up what few remaining matters are necessary for it to attend to before final adjournment? Of course, the House has acted with dispatch as well as intelligence all during the session, and, as far as the House action is concerned, Congress could have adjourned some time ago, but the delay is occasioned by the Senate; and what I want to know is what hope is there of the Senate concluding the legislative program within the near future?

MR. GARNER, OF TEXAS. Mr. Speaker, I have no information on the subject, and therefore I move that the House adjourn.

Taking Down the "Made in Germany" Sign

SUBSTITUTES for materials and sources of supply have been a real quest since August, 1914. That there has been success in obtaining substitutes appears from the circumstance that for many articles formerly obtained from sources that were closed the "peaks" in prices was reached as long ago as the spring of 1916.

Some of the changes in supply followed closely upon the outbreak of war, in 1914. Having purchased much cocoa from West Africa through Europe, the United States turned to Ecuador and took large supplies, incidentally saving a situation which to Ecuador cocoa-planters had looked desperate.

Dyestuffs and potash were not the only things we had obtained from Germany, and which have since had a deal of attention. Cat-gut, —i. e., sheep-gut,—used by surgeons for sutures had come from Germany, where the method of its preparation was a family secret. Almost over-night, the American packers erected plants within a short time American workmen had found ways of their own to produce an article that will scarcely appear again in our imports. German fire clay used in making crucibles and lead pencils has given way to clays from Arkansas and Missouri.

In 1913 ninety-three per cent of the magnesite used in making refractory brick to line our blast furnaces and other chambers where great heat developed came from Austria; for the time being, at least, American magnesite has taken its place, although in this instance the purity of American ore may eventually force us to revert to Austria-Hungary for supplies, as the foreign ores happen to contain desirable impurities. Lithographic stone we used to buy from Bavaria, we now purchase it from a Kentucky quarry. Gloves of cotton fabric with "sueded" finish, made in Germany, were popular here in 1914; just as our manufacturer earlier had succeeded in replacing German silk gloves with their own make they have now found how to make gloves of cotton fabric for the American trade. It will probably be a long time, too, before American flags are imported from Germany. Photographic, picture, and optical glass form another group of articles we now make for ourselves.

All the supplies which were interrupted did not come from Germany. For platinum we depended upon Russia. Our dependence continues, but high prices for the metal led to invention of substitutes for some electrical uses, and these substitutes will not again give way to the metal. A British embargo stopped 90 per cent of our supply of strontium; California and Nevada promptly increased their production, and American chemists as quickly made the strontium salts we need, and did it at a profit. Sumac powder for dyeing came from Sicily before the war; it is now prepared from native sumac. Now that linen cloth for our aeroplanes is becoming hard to get we are developing silk weaves to take its place. Although we have not done away with asbestos in insulations, we have found that Venice, being cut off from German glass, has aided the manufacture of spun glass to its glass-bead industry, and are making some substitutions.

These examples are merely illustrative of our successes in supplanting foreign sources of materials and of the problems that remain. There are many more. On the facts, however, it is clear that we have been making progress in many ways, and much of the advance we are making we shall keep.

Our Fish Need A P. D. Armour

By Educating the American Palate
Products a Second Great Packing
Built on the Yield from the Vast
Herds of Our Sea Pastures

and Developing By-
Industry Could Be

BY
WILLIAM C. REDFIELD
Secretary of Commerce



A New England fishing schooner putting out to sea. Two hundred and seventy-three vessels of this type landed 21,929,742 pounds of fish in Boston, Gloucester and Portland, Maine, during June. In return for it the fishermen pocketed \$256,505.

LAST year the fishermen of the Atlantic seaboard of the United States caught with their lines and nets 400,000 goosefish, great bulky fellows four feet long and weighing twenty-five pounds each. In all they pulled in ten million pounds of this fish and at every haul swore roundly and dumped the catch back into the sea. Yet whenever a fisherman threw one of these greedy bait eaters overboard he lost to the consuming public the same quantity of nourishing food we would have if his discard had been a similar weight in choice sirloin steak.

There was but one reason for his action and that was the fish-ignorance of the American people. The housewives of the United States not knowing that goosefish exists, do not ask for it when they go to market. As a consequence the market man does not buy it from the fisherman and so the latter refuses to bring it to the wharves. Goosefish is as good and as palatable and as nourishing as cod or salmon or shad, but the consumer does not know about it and no demand is created.

What is true of goosefish is true of a score of others. An immense reservoir of food for Americans in war time is being overlooked. Vast quantities of the cheapest animal food in the United States remain practically unused while prices soar and conventional supplies are exhausted. And all the time the average man in this country, with sea food resources that are almost unequaled the world around, eats one pound of fish where the Britisher eats five, where the German eats six, where the Hollander eats seven, where the Scandinavian eats eight, where the Chinese eats ten, and the Japanese eats twenty-five. Careless and extravagant in the possession of his great wealth, the American has been indifferent to economy and has neglected fish. To be sure America has a fish industry in which her citizens have invested \$70,000,000, which yields \$80,000,000 annually and which supports 225,000 people. This is, however, but a shadow of the business that should be

possible from the untouched aquatic resources of the nation. The present food crisis may have the effect of calling the latent fish possibilities to the American mind. Experiments seem to have pointed the way toward the proper method of getting these unused resources into the markets and to the dinner tables of the American homes. But first let us have a look at some of these readily and cheaply available foods.

This goosefish, called also monk-fish and in Europe devil-fish, is an ugly and unpopular member of seabottom society. Its mouth is of huge proportions, the latch-string is always on the outside, and a visitor half as big as the fish itself can be admitted. It has been known to entertain lobsters, starfish, crabs, ducks, and geese. It is a nuisance to the net and line fisheries along the coast from Maine to North Carolina. In Europe it is highly prized and brings prices that are often above those of mackerel. In Europe also, it is cured by smoking and extensively used.

The Pacific coast has a neglected fish as easily obtainable as is the goosefish and even more attractive. It has been called a black cod from Oregon to Alaska but this is a misnomer, and the government's bureau of fisheries has given it a real name of its own. It is henceforth to be set down as the sablefish. It is slim and graceful and firm and fat and

nourishing. It is largely caught in the halibut fisheries in the deep waters off the Pacific coast. It has been largely discarded like the goosefish, and for every one thrown overboard the American public is out fifteen pounds of excellent food. But the housewife does not ask the marketman for sablefish, and there you are.

The Pacific coast perpetrates a more spectacular waste than this. When one of her whalers scores a catch he makes available 10,000 pounds of first-class beef. The whale is not a fish but a mammal, coming under the same classification as cattle and other sucklers of their young. Therefore the flesh of the whale is not fish but is beef and with no fish taste whatever. The whaler lands his victim that he may "try out" its blubber oil or get its whalebone. Sometimes he now goes so far as to convert the rest of the carcass into fertilizer, but the practice for more than a century has been to throw away the huge whale carcasses after a comparatively small part has been utilized. If the whaler does make use of the carcass, he receives half a cent a pound for as much good beef as could be cut from a score of prime cattle. He could cut out this steak and sell it for beef if he but took the trouble and if people but knew that whalemeat was as good as any other butchershop product.

Already the American public has acquired its taste for whale meat. This year whale meat was sold and eaten in California, Oregon, and Washington, and the reports of the reception accorded this new food indicate that it has come to stay. During May an enterprising whale company placed fresh whale meat on the market in Seattle, Wash., and Portland, Oregon. The product met with a ready sale at 10 cents a pound and was immediately placed on the menus of the hotels and restaurants under its proper name. It was eaten by a government fishery expert who reported that it was excellent, that it was ordered by many diners, and that the supply was speedily exhausted. A thick portion, such as would have cost a dollar and a half if it had been beef, was offered for 40 cents.

One whale yields as much beef as twenty cattle and 1,500 are killed every year on the coasts. It would seem, on this basis, that the equivalent of 30,000 head of cattle annually goes largely to waste or is put to its least possible economic use. It has been suggested that, if a packing-house were established for this meat, the profits would be very great. By applying packinghouse methods under which it is said that use is made of every part of the pig but its squeal, the by-products might also develop much value. Japan has long used for food the rich meat obtained by her whalers.

ON the New England coast there sometimes come in vast schools a vest-pocket edition of the whale known as "blackfish." It has played many a dramatic role among the fishing villages because of its apparent stupidity. These creatures play about the coasts, their favorite game being follow-the-leader. But if this leader happens to get into shallow water and his belly touches the ground, panic seizes him. He begins to plunge and flounder frantically. If his nose happens to be pointed toward the land he climbs right up on it and can't get off again. Every blackfish in the flock follows suit. Soon the beach is covered.

Twice in the lifetime of a New England fisherman the blackfish came to his beach. As many as 1,200 of these have been known to ground themselves in this way. There is great excitement in a fishing village on these occasions. Every man

woman and child rushes to the beach and attempts to place a mark of identification on as many blackfish as possible. Later they cut these creatures open and take out certain portions that yield fat. The rest of their bodies, which weigh about a ton each, go to waste. The fishermen have not known that there was a thousand pounds of good steak in each of them. Their meat is like that of the whale, is red and nutritious and palatable. When 1,200 of them run ashore, it is as if 2,400 cattle were delivered to the villagers if they were but provided with a method of disposing of the flesh.

MORE regular in their appearance and more abundant on our coasts are the porpoises, which, when taken at all, are most imperfectly utilized but are for the most part entirely neglected. They have an undoubted value as human food, their meat being comparable to that of whales.

The government's Bureau of Fisheries has said of grayfish that "it knocks it out of the H. C. of L." The grayfish is a pirate and marauder, particularly fond of running amuck among fishermen's lines and nets and cutting to pieces the captured fish. It travels in schools and, when it visits a fishing ground, is likely to drive all other frequenters away. The grayfish is a smaller shark weighing six to ten pounds, and is a clean, clipperbuilt creature, swift in the water and attractive looking in the stalls. Great quantities of it are caught on fishermen's lines but there has until recently been no sale for it. Such a nuisance is it to fishermen that there have been many proposals to put a bounty on its head as in the case of wolves in the west.

Finally, however, the government determined that an industry should be built with the grayfish as a basis and it has said to the fishermen along the coast:

"You catch the grayfish and we will endeavor to have them canned and marketed."

Canneries have now been established for this purpose. The government has been doing the advertising for this new fish product. It also sets the price that an undue profit may not accrue to the industry it has sponsored. Canned grayfish is now selling on the market in 30 states, two 14-ounce cans for a quarter. This is half the price that is paid for most fish in cans, and there is a profit to the canner.

Many Americans have developed a taste for Scotch herring. They have been satisfied with the product sent them from across the ocean and have never taken the trouble to develop an industry of their own, although the



On board a halibut fishing boat. People of the Atlantic coast demand that this fish be shipped to them from distant Alaska. They pay the freight and the cold storage bills—and wonder why the price is so high. In addition they violate the sensible principle that fish should be caught as near as possible to its market so that it may come to the table fresh.

United States possesses in Alaska herring fishing grounds equal to any in the world. Now, however, the British have prohibited the export of this herring, and the United States finds that it must either learn to cure it or must do without. In the circumstances, the Bureau of Fisheries has employed a Scotchman who knows the business thoroughly and has sent him to Alaska where, with a corps of assistants, he has been traveling from place to place and gratuitously teaching whoever wants to learn how to pickle this fish as it is done in the bonny firths, so that the fastidious American may not go herringless.

THE shores of the United States are aswarm with sea mussels which are almost entirely unused. Yet this mollusk is the equal of the oyster or the clam. France consumes 400,000,000 pounds of mussels a year and Holland 65,000,000. They exist in great beds easily accessible along both the Atlantic and the Pacific seaboard. They can be secured more easily and cheaply than can oysters and clams, and a barrel of them contains more food than the same quantity of oysters. A peck of mussels in the shell will supply all the meat required for a meal for ten persons. They are palatable, nourishing, easily digested—a food for rich or poor, well or ill. They are an almost unlimited resource ready to be drawn upon.

The Grampus, a vessel used by the government in making scientific and fishery investigations, some years ago found that off the New York and New Jersey coasts was an unlimited deposit of giant scallops. These scallops are nearly as big as a dinner plate and with a capacity of navigation by means of clapping the two valves of their shell together. To accomplish this they must develop a considerable amount of muscle. This is found near the center of the two shells and is often as big as the wrist and three inches long. It weighs a half a pound and is equal in nourishing value to a spring chicken. These creatures are waiting in innumerable quantities to be scooped up and delivered to the consumer. One man in ten has come to know the taste of scallops and nearly all persons like them. They are a delicacy in the restaurants and high in price. They await a development of the scallop industry that will place them on the market at reasonable prices.

The neglect of fresh-water products in the United States is no less striking than the lack of use of its salt water resources. Among the fishes that offer latent possibilities is the bowfin, which is peculiar to America and is the only fish of its kind in the world. It is a holdover from earlier ages as is the kangaroo or the giant trees of California. It has been neglected as a food and has enjoyed an advantage over its rivals that are eaten. It is therefore nearly becoming a pest in all the waters of the Mississippi valley.

The bowfin should be eaten more in order that other fishes may be given a chance. It is inordinately easy to catch though very game when hooked. It smokes deliciously and there is a possibility of making its curing a local industry that will furnish any home in the great heart of the country with its smoked fish for winter.

Italian literature of the sixteenth century tells of society women, even to the rank of countess, who would pawn their jewels that they might buy burbot, yet the fishermen of Lake Erie used to call it the lawyer because "it preys on its fellows and is no good itself." Burbot is its ancient and correct name, but it is called variously eeling, ling, and cusk in the United States. It has hitherto been little known except among fishermen but is now

being introduced by the government in the light of its former fame and present value and because it may be had fresh from nearby waters in many parts of the United States.

Finally, there is the German carp, that plebeian alien that may be found in almost any sluggish stream in the country. It is scorned and despised and scoffed at and is still the basis of the greatest inland fish industry of the United States. It is a fish highly prized in Europe and underserving the neglect of Americans. Our people fail to appreciate it or to handle it properly. The carp lives on the bottom of muddy ponds and streams and, to save itself trouble, takes in all the bottom material it will hold. Then it digests out the worms and other elements or nourishment and discards the mud.

When you catch a carp it is often full of mud and its flesh will have a muddy flavor. If the prospective consumer will put it in a tub of fresh water for twenty-four hours the mud and the muddy flavor will be gone and the fish will be palatable. In Europe the law often requires this handling of carp. In case of siege our people could live on carp almost indefinitely.

Those who have studied the question of America's ignored sea-food resources believe that our attitude is due to such abundance of other foods that the nation has never felt a real necessity for economy. Beef and chicken have always been plentiful and there has been money with which to buy. There has been no need of drawing on the resources of the waters. There has always been a merely incidental demand for fish in the markets and the demand has been met. The conventionality of this demand is most amusing.

The Pilgrim Fathers had been accustomed to eating cod and mackerel and salmon in Europe, and they ate those fish when they caught them on their lines in America and discarded those fish to which they had not been accustomed. People in America are still eating fish of their ancestors and discarding others. The supply of cod having run short on the Atlantic banks, that fish is being caught in Alaska and shipped to markets, fed by the New England fisheries, but it is not eaten fresh on the Pacific coast where salmon has always been the favorite.

THE shad is the most popular fish in the Potomac, and has been transplanted to the Sacramento River, and San Francisco Bay is now full of it. The people of California, however, have little regard for it. The fashion in fish is different out there. Halibut has a firm hold upon the consciousness of many people of the Atlantic seaboard. With their waters full of innumerable varieties of choice fish, they demand halibut which has been shipped from Alaska and has been many weeks out of the water, thus violating the gastronomic principle that fish caught nearest the point of consumption are best there.

This folly is the cause of much of the complaint of housewives that fish is no cheaper than beef. They buy expensive fish that has been shipped long distances and kept in storage for many weeks, all of which has added to its price. They neglect the fish fresh from the nearby waters. It is a sound rule that the fish one should buy is that from the waters of the vicinity. It is fresher and better and should be cheaper.

Authorities believe that a great economic need in America is fish education. The Bureau of Fisheries has been trying some experiments and it has demonstrated a remarkable possibility. Here is what it did toward establishing the tilefish:

It determined in 1915 that *Lopholatilus*

chamaeloniceps should be brought to the notice of the American public. It adopted a syllable out of the cognomen of this romantic creature and nicknamed it tile fish so that ordinary folk might talk about it. Then it told the wonderful story of that time in 1879 when Captain William V. Hutchins, fishing on the 100-fathom curve off Nantucket, had brought to market for the first time in the world this wonderful fish which combined all the qualities that should be possessed for admission into the exclusive families of market fishdom. The debutante was accepted and enjoyed a brief popularity, when a great marine tragedy occurred.

In 1882 something happened to the tilefish. Mariners came to port and told wondrous tales of having sailed for 65 miles through masses of dead fish. Parallel to the shore the water was covered with them for 170 miles. Why they had died was a question that puzzled scientists. Certain it is, however, that no tilefish came to market for more than thirty years thereafter, and it was taken for granted that the species had been exterminated.

THEN a few years back, the Bureau of Fisheries found that the tilefish had reappeared around the 100-fathom curve and were present in great abundance. The bureau determined to reintroduce this choice food product. It guaranteed certain profits to a fishing schooner and sent it out to test the bottom of the sea, 600 feet down and at the point where the Gulf Stream brushes genially past. This schooner made good hauls and brought them to New York.

The Bureau had prepared for its coming. It had induced the newspapers to publish stories about the tilefish. It had prepared a bulletin on its use as a food and placed copies for distribution through its stations and by marketmen. It had printed placards telling of the tilefish, endorsed by the government, and suggesting to the public that it buy of this fish; these placards were placed in the markets. It induced hotels to put tilefish on their bills-of-fare and presented steaks to distinguished individuals and gatherings. In short it inaugurated a whirlwind campaign of advertising for its new find.

The result was that tilefish caught the attention of the fish-eating public. There began to be a demand. The housewife came to the stall and asked for tilefish. It sold. The marketmen asked for it at the fishharvest. The fishermen began to bring it in because it was profitable. After one month of activity the government found that it had given the fickle American a new fish for his table. In the year that followed the American public consumed ten million pounds of tilefish. The demand continues and is growing.

It is upon this experience and others like it that the experts of the government base their claim that the great need of sea food is advertisement. They believe that this advertisement should begin with the fishes that are actually caught and thrown back into the water—many of them dead and useless.

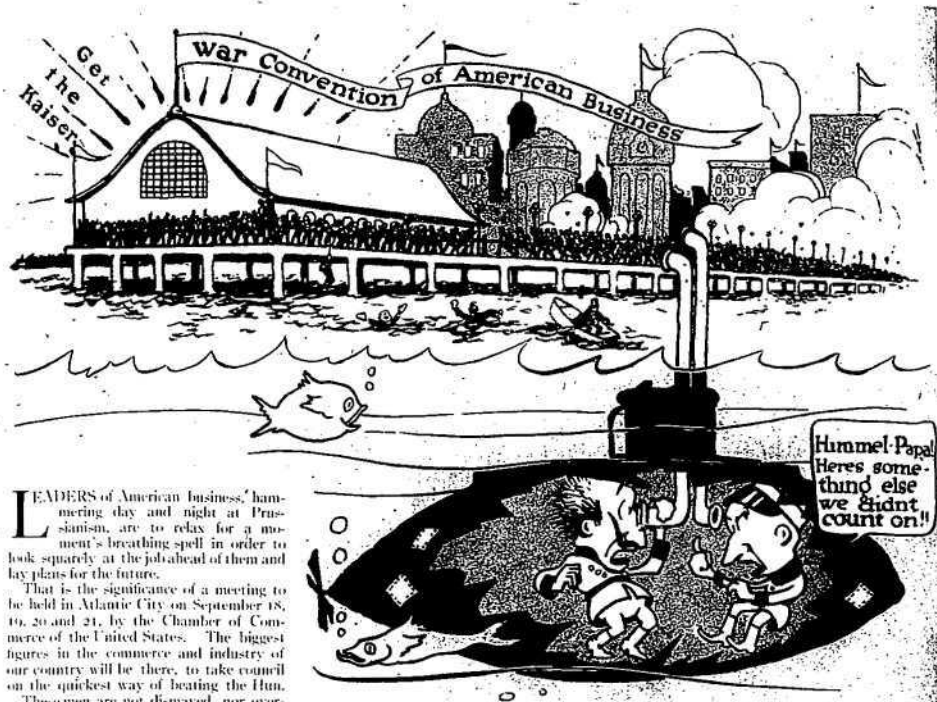
It is held that there is no need of developing the supply of sea foods. That supply is already available. To bring it into use would seem a hugely practical undertaking at this particular time of national crisis. The need is advertising, the methods are demonstrated.

The end of the war, when it comes, will officially be the date of the President's proclamation announcing that ratifications of the treaty of peace have been exchanged. The cessation of hostilities may long precede the official end of the war.

Business Starts Its Great Drive

The First Gun Will Boom at a Great War Convention That May Mark an Epoch in Economic History

DECORATION BY CHARLES E. HOWELL



LEADERS of American business, hammering day and night at Prussianism, are to relax for a moment's breathing spell in order to look squarely at the job ahead of them and lay plans for the future.

That is the significance of a meeting to be held in Atlantic City on September 18, 19, 20 and 21, by the Chamber of Commerce of the United States. The biggest figures in the commerce and industry of our country will be there, to take council on the quickest way of beating the Hun.

These men are not dismayed, nor over-confident. At the time of our declaration of war they took the foe's measure. Through the years of the conflict preceding they had seen the power of the terror that threatened Europe. They knew that sacrifice, skill and speed would be demanded of them and their organizations, and they settled down to the greatest task that had ever confronted them.

Soon, however, it became apparent that their estimate of the part business men were to play fell short of reality. Greater service, greater speed, greater skill were to be asked of them than had ever been asked of any nation in history. Their sacrifices were to be such as the exigencies of the case called for. Their task, it was now startlingly clear, would test the foundations of our industrial and commercial life and the virtues of the American people.

America had said to them: "Barbarism is overrunning the earth. Britain is battling for her life. France is in tears; Belgium all but blotted out. They, with Italy and Russia, are fighting for the things in which we believe. America is democracy's last hope.

"Restore the freedom of the seas. Give us ships, by the hundreds, by the thousands. Revive the golden age of our merchant

marine, the age which created *Flying Cloud*, the *Great Republic*, the *Comet*, the *Dreadnought*. Call lack the master shipbuilders. McKay and Webb and Hall. And the captains. Creesy and Palmer, Dumaresq and Babcock."

On top of that came the command to do something more amazing still.

"Create a billion-dollar industry in one year, starting, practically, from the ground. Build 22,000 aeroplanes and 49,000 aeroplane motors.

"In 12 months, do as much as France and England have done in three years."

Business men were sobered, but not disheartened. Without hesitation, they swung into action with the cry:

"We can do it."

THE Atlantic City meeting, in its purpose, in its spirit, in the men who will attend, in the effect it may have upon the destiny of nations, will mark an epoch in the history of the United States, perhaps, in that of the world. For the first time, the entire commercial and industrial forces of a country, turning aside from their ordinary aims and rivalries, will come together with a single object in view.

The business men of America have already performed a work in connection with this war which might, without flattery and with full justice, be described in superlatives. Every task, however, did not stand out distinctly in the beginning. Men understand better now what must be done than they did three months ago, or a month ago. A manufacturer in Chicago may have a clearer vision of the service to be rendered by industry than a manufacturer in New York. At Atlantic City he will share his vision with the other. Information as to how to adapt the resources of the country to war will be made common property—a sort of socialism of knowledge.

The best man to explain why such a meeting is worth while and what it may be expected to accomplish is President Rhett, of the Chamber of Commerce of the United States, the organization responsible for the calling of this War Convention of American Business. This is what he has to say about it:

NEVER have business men in America faced such rapidly changing and uncertain conditions. Thoughtful discussion of them and renewed ambition for accomplish-

ment should add new inspiration to business and to all our people in this war for civilization and humanity.

"The Executive Committee of the Chamber, continually in session in Washington for nearly four months, has been brought into close contact with many new problems affecting the business of the country occasioned by the war. Step by step the government and

all classes in our society have been organizing in order better to meet their duties and responsibilities in connection with these new conditions.

"The demands on business now being made and to be anticipated for the future are becoming clearer day by day. The time has arrived, in the opinion of the Executive Committee, when the business men of the

nation should carefully survey the new questions presented and, in common counsel, see what they can do to develop greater efficiency and render greater service in carrying the war to a quick and successful conclusion.

"Victory in the great struggle in which we are engaged depends largely on the power, intelligence and speed of the industry of the

War Convention of American Business

Atlantic City, Garden Pier, September 18-21, 1917

MONDAY, 2.30 P. M.

Meeting of National Council of the Chamber of Commerce of the United States.

TUESDAY, SEPTEMBER 18

FIRST SESSION, 10.30 A. M.

Organization of Convention.

The Duty of Business in War

Introduction by President Rhett of the National Chamber.

Address by Secretary of War Newton D. Baker.

Address by George M. Reynolds, President, Continental and Commercial National Bank, Chicago.

SECOND SESSION, 3.00 P. M.

What American Business May Do To Give Further Aid in Winning the War

Address by the Secretary of the Interior, Hon. Franklin K. Lane.

Address by the Chairman of the War Industries Board, Frank A. Scott.
Discussion opened by Mr. Waddill Catchings, Chairman of the Committee of the National Chamber on Cooperation with the Council of National Defense.

Subjects of Discussion

A. Organization of the Government's buying.

B. Control of prices on raw materials and finished products.

C. How the business of the country may improve its present organizations better to serve the war needs of the nation.

D. Collateral subjects involved in the production of military supplies and the reaction of Government demands on the needs of the people.

THIRD SESSION, 9.00 P. M.

Address by the Russian Ambassador to the United States, Hon. Boris Bakmetoff.

WEDNESDAY, SEPTEMBER 19

FIRST SESSION, 10.00 A. M.

How American Business Can Help Promote the Development of Transportation on Land and Sea as a Primary Factor in Winning the War
Railroad Transportation. (Speaker to be announced later.)

Ocean Transportation. (Speaker to be announced later.)

Priority and Distribution. Mr. A. C. Bedford, President of the Standard Oil Company.

Subjects of Discussion

A. Priority of transportation and distribution of materials and finished products for the Government, the Allies and the public at large.

B. What steps business may take by planning bulk shipments and more efficient storage to secure greater use of existing railroad facilities.

C. The increased use of our inland waterways and coastwise transportation.

D. What the business men of the country may do to accelerate the shipbuilding program.

SECOND SESSION, 3.00 P. M.

Functions of the Commercial Organizations in War

Three Group Meetings for the special consideration of this subject will be held as follows:

Group A. Meeting of representatives of local commercial organizations to exchange experiences and consider what further steps may be advisable.

LEADERS. Major Bascom Little, former President of the Cleveland Chamber of Commerce.

Mr. James A. McKibben, President, National Association of Commercial Organization Secretaries.

Subjects of Discussion

(a) Fuel conservation.

(b) Better use of freight cars and terminal facilities.

(c) Utilization of motor trucks and trolleys.

(d) Cooperation on the food problem.

(e) Economies in the use of materials, power and delivery service.

(f) Saving on storage space.

Group B. Meeting of manufacturers and representatives of trade organizations to consider how they may organize better to serve the Government and develop their output.

CHAIRMAN—Mr. William Butterworth, President, John Deere Plow Company, Moline, Illinois.

LEADERS—Mr. Walter S. Gifford, Director, Council of National Defense.

Mr. George D. Melvaine, Secretary, National Trade Organization Secretaries.

Subjects of Discussion

(a) Organization of committees representing all producers in the industry, including those not members of associations.

(b) To what extent should such committees act beyond affording a point of contact between the Government and the industry?

(c) Organization of standing committees to cooperate with the National Chamber on special war problems.

(d) The determination of prices under the abnormal conditions caused by the war and the relation of minimum prices to increased production.

(e) Where prices are determined by the Government what hearing should be afforded business affected?

(f) Relation of prices fixed by the Government to stocks of raw materials and finished products and to contracts.

(g) Priority regarding private contracts.

(h) Organization of Government buying.

Group C. Conference on retail trade conditions, prices and distribution.

THIRD SESSION, 9.00 P. M.

Address. Lord Northcliffe, Chairman, British War Mission.

Address. Hon. Herbert C. Hoover, United States Food Administrator.

THURSDAY, SEPTEMBER 20

FIRST SESSION, 10.00 A. M.

Group Meetings for the Discussion of Ways and Means for Business to Adjust Itself During and After the War.

Group A. Banking and Finance under war conditions.

CHAIRMAN—P. W. Goebel, President, The American Bankers Association.

LEADERS AND SUBJECTS:

(a) Foreign exchange and American banks abroad. Fred I. Kent, Vice-President, the Bankers Trust Company, New York.

John Clausen, Vice-President, The Crocker National Bank, San Francisco.

(b) Trade Acceptances. Lewis E. Pierson, Chairman of the Board, Irving National Bank, New York.

(c) Commercial credit during and after the war.

(d) Taxation and Bond Issues.

Frank O. Watts, President, Third National Bank, St. Louis.

Thomas S. Adams, Professor of Economics, Yale University.

Group B.

Foreign Trade and Foreign Relations.

LEADERS—Mr. James A. Farrell, President, National Foreign Trade Council.

Mr. George E. Roberts, Assistant to the President, National City Bank, New York.

SUBJECTS OF DISCUSSION

(a) Government control of, participation in and aid to foreign trade—during the war—after the war.

(b) How may the National Chamber be most useful in promoting American foreign trade after the war?

(c) Further development of the International Chamber of Commerce and the participation of American business organizations.

(d) A league of nations after the war to insure peace.

(e) Combination in foreign trade.—The Webb Bill.

(f) Promotion of foreign trade through commercial treaties.

(g) Export control and trading with the enemy.

Group C.

Industrial Relations. Employment problems raised by the war.

CHAIRMAN—Mr. Waddill Catchings.

LEADERS—Hon. William B. Wilson, Secretary of Labor.

Meyer Bloomfield of Boston.

Group D.

Food and Fuel Control.

FRIDAY, SEPTEMBER 21

FIRST SESSION, 10.00 A. M.

Report of the Committee on Resolutions, discussion of committee's findings and action thereon in the name of the Chamber of Commerce of the United States.

NOTE.—The foregoing is only preliminary and includes only the names of those who have definitely accepted. Other prominent speakers have been invited but their acceptances had not been received at the time of going to press.

United States; upon our ability to produce faster and better than ever before the things necessary to efficient warfare. This convention of American business men should show, not to our own people alone but to all the world, in what spirit and with what determination business faces the tasks ahead of us.

"It is the patriotic duty of every live business man who can possibly arrange to do so to attend this convention, not only to show emphatically where the business men of the United States stand in the present crisis; but also that each may gain all possible knowledge as to how he can plan more intelligently to be of greater service in the common cause."

NEW to the business of war, the men directing commerce and industry have been asking questions, hundreds of them, without always finding satisfactory answers.

What may be done to control prices? How may priority be most quickly and effectively established? How shall greater efficiency in land and water transportation be developed? What steps may be taken for better education of the nation on the issues at stake in the war? How shall we provide for business enterprises not essential to the nation in war time? These and questions touching food conservation, industrial relations and employment problems, foreign trade, banking and credit in war time puzzle the business man, not to mention those dealing with readjustments after the war.

Business men have been told a great deal about the duty which business owes to the government in war, but no one has thus far told them exactly of what that obligation consists.

The Chamber of Commerce does not believe that it is a riddle without an answer. Therefore the three addresses at the opening of the convention—by President Rhett of the National Chamber, Secretary of War Baker, and George M. Reynolds, president of the Continental & Commercial National Bank, Chicago, will deal with that subject.

The matters discussed will go to the heart of the war-time problems confronting business; the men who will interpret them will speak from the vantage ground of experience. The three already mentioned are a promise of that. Then there will be such men as Frank A. Scott, chairman War Industries Board; Waddill Catchings, chairman National Chamber's Committee on Cooperation with the Council of National Defense; Hon. Boris Bakhmeteff, Russian Ambassador to the United States; A. C. Bedford, of Standard Oil; James A. McKibben, secretary Boston Chamber of Commerce; William Butterworth, Moline, Ill., president Deere & Co.; P. W. Goebel, president American Banker's Association; James A. Farrell, president United States Steel Corporation; Herbert Hoover, Food Administrator, Theodore F. Whitmarsh, president Wholesale Grocers' Association, and Lord Northcliffe, of the British Mission.

THE convention will be made up of representatives from the organization members of the National Chamber of Commerce, individual members, representatives from commercial organizations not affiliated with the National Chamber, and prominent business men not individual members of the Chamber.

In connection with the convention, a special meeting of the National Council of the Chamber, the main function of which is to act in an advisory capacity to the Board of Directors, will be held on the afternoon of September 17.

In the view of those who are sponsors for the convention, business is suffering in the public eye for two reasons, lack of knowledge of how to adjust itself, and the narrow and selfish attitude of an almost negligible but somewhat prominent minority. The position taken by business as a whole has been dictated by patriotism.

"The Chamber of Commerce has gone flatly on record against a profit out of war," said Elliot H. Goodwin, General Secretary of the National Chamber. "It must not be overlooked, however, that business in peace time is conducted for profit. That is the rule of the game. Without profit, it cannot live. Success in business is measured by profit."

"Patriotic business men are perfectly ready to work on another basis so long as they can live, but they must have clearly indicated what the new basis will be, along what line they shall proceed, and what is expected of them."

It is to help in the formulation of such a policy, to make clear what is to be done and how it can best be accomplished, that this convention has been called. American business men, conscious as they are that the greatness of the task before them will strain every resource at their command, are yet confident that the job can be done, and they are proceeding as one man to do it.

Congress At Grips With Gigantic War Problems

Levying Largest Sum Ever Raised by any Government Through Taxation, Controlling Food, Fuel, Profits and Income, Trading with Enemy and Foreign Exchange, New Standards are Established for America and World Currents Set in Motion

DURING August Congressional debates centered in the Senate. The House was inactive during the month, considering that it had completed its part so far as the legislative program had been developed.

The Senate really began the month with final debate regarding the bill which granted to the President powers of control over food and fuel. This measure became law on August 10, and on the same day the President signed two related bills,—one authorizing him to indicate the shipments which are to be given preference in transportation by land and water, and the other directing the Department of Agriculture to make a survey of the food supplies in the United States.

Emergency Control

These three laws are already actively in force. The Department of Agriculture is making a preliminary survey as of August 31, and will use the result as a basis for the conclusions it will reach when it has actual returns from the crops. The preliminary survey will extend even into cellars and pantries.

The powers conferred by these laws need not be exercised by the President personally but may be delegated to any person whom he designates. Authority to establish priorities in transportation the President delegated to a

man who, in normal times, is at the head of a great railway system. Thus, a director of transportation has been created for the country. An office staff has been assembled, and priorities have been ordered for the movement of bituminous coal by rail-and-water to the head of the Great Lakes.

The powers to control food and fuel the President likewise delegated. For food he appointed a food administrator. On September 1, all the elevators handling wheat and rye, and all the flour mills with a capacity exceeding 10 barrels a day, came under supervision through a system of licenses. A fifty-million dollar corporation has been formed in Delaware to buy and sell grain on government account. Two dollars and twenty cents a bushel has been announced as the basic price this corporation will pay for this year's crop of wheat. And an organization of the Food Administration has been arranged which includes divisions of commercial relations, distribution, transportation, bread and baking, potatoes and staple vegetables, fruit and vegetables, dairy products, canned goods, sugar, hotels and restaurants, and animal industry.

To exercise special powers with respect to fuel, the President, on August 23, appointed a fuel administrator. Thus the United States Fuel Administration has taken its place as a federal agency beside the United States Food Administration.

On August 8 the Senate turned to the revenue bill, and devoted the remainder of the month to its discussion. The Senate is to have its final vote on September 10. The new tax bill may then become law around September 20, although

difficulties of adjustment between the two Houses try to settle their differences may delay enactment to a date nearer the first of October.

The war-revenue bill had been reported to the Senate on August 6, after being with the Finance Committee a total of eleven weeks. In the hands of this Committee it had undergone a number of changes. For example, two per cent was added to the tax on incomes of corporations. Retroactive income taxes adopted by the House were eliminated. War-profits taxes were placed upon a basis of pre-war profits, whereas the House had sought to tax large profits as such, whether they were larger or smaller than before the European war began. Taxes on manufacturers of automobiles were replaced with annual license taxes upon owners. For the plan of the House to have newspapers and magazines pay postage by zones a plan of a slight flat increase in the rate and a special income tax on publishers was substituted. Altogether, the bill which came before the Senate on August 8 had many differences from the measure that passed the House on May 23.

The bill passed by the House was expected to yield \$1,867,000,000. The bill which was reported to the Senate was to yield \$2,066,000,000. That the latter figure will be greatly exceeded has become evident; for in the course of debate it has been agreed that income taxes will be levied to yield in excess of \$800,000,000, or, with the existing taxes on income, about 25 per cent of all net income,—and the tax on war profits will be made to bring in at least \$1,286,000,000, which according to the Finance Committee's figures will approximate 25 per cent. In other words, the bill stands at present as a proposal to raise by new taxes a sum nearer three billion dollars than two. As the yield of existing taxes will reach about \$1,300,000,000 this year, the present possibility is that federal taxes will be used to obtain approximately \$4,000,000,000. This will be quite the largest sum ever raised by any government through taxation, and is 34 per cent of the disbursements which the Treasury now expects our government to make on its own account before July 1, 1918. The amount England is raising this year from taxes is about \$2,700,000,000.

The Senate began its increases by raising to 4 per cent the Finance Committee's recommendation for an additional tax of 2 per cent upon the net income of corporations, making their total tax 6 per cent. It then proceeded to revise upwards the Committee's original recommendations regarding super-taxes on the incomes of individuals, ending by placing the highest new super-tax at 50 per cent, or 3 per cent higher than the House had adopted. Accordingly, existing taxes and taxes proposed by the Senate would aggregate 67 per cent of income in excess of \$5,000,000.

The Senate Committee itself greatly amended the plan it first brought forward on July 3 to tax the part of a corporation's current net earnings which are not promptly distributed in dividends. As this tax now stands it will not attach to amounts which are kept for use in the business.

On August 29 the Senate Committee abandoned in part the recommendations it had earlier made with respect to taxes on war profits,—the descriptive term it used instead of the House's phrase, excess profits, and a distinction which really indicates the difference in principle between the House of Representatives and the Senate Committee on Finance. The Senate Committee at first proposed to allow a concern to have exempt from tax those profits which were at the rate earned before the European war, no matter how large they might be. On August 29 the Committee recommended that in any event exemption of profits from taxation should not exceed an amount greater than 10 per cent of the capital at the beginning of the year for which the tax is levied. At the same time, the Committee recommended that the graduated scale of taxes go to 60 instead of 50 per cent; this maximum tax of 60 per cent would apply upon the amount by which current net earnings exceed 300 per cent of the rate of earnings in 1911-1913. In other words, it would apply to \$10,000 of the current net earnings of a concern which in the pre-war period made \$10,000 but now makes \$30,000.

The House voted for a tax on transportation

of express packages, an increase in the rate for first-class postage, and zone Postage and rates for second-class mail. Express The Senate Committee endeavored to adjust conditions between express and parcel post, added one-fourth of a cent to the present rate of one cent a pound for second-class mail, and suggested a special income tax for publishers.

The Senate agreed that express and parcel post should be on an equality,—except that the tax of one cent upon each twenty-five cents of charge is not to apply in the case of parcel post unless the charge is over twenty-five cents. It departed, however, from the Committee's recommendation about the rate for second-class mail, substituting a system of rates by the zones used for parcel post,—one cent a pound for distances up to 300 miles,

How will my business, the profits of which must help to pay for the war, fare under the legislation contemplated by Congress? is being asked by merchant and manufacturer. Many practical questions regarding the effect of measures passed or still pending—questions bearing upon business reconstructions necessary to fit new conditions—are answered in this review of the work of Congress during August.

and increase by one cent a pound for each zone above the third to a maximum of 6 cents for distances over 1,800 miles. At the same time it struck out the increase on first-class mail and the special tax on publishers' incomes.

After passing the revenue bill the Senate will be ready to consider the bill brought forward in May to govern transactions in which persons of enemy nationality directly or indirectly participate. The House passed this bill on July 11.

As placed before the Senate on August 31, by the Committee on Commerce, the bill keeps its general form. In other words, it prohibits transactions with persons in Germany or situated outside Germany but doing business there; in like manner prohibits transactions with persons in Austria or the other countries allied with Germany but allows the President subsequently to suspend these prohibitions; and gives the President power, when he deems it necessary, to forbid transactions with citizens of Germany wherever they may be outside their country. The general principle of the bill is that in situations where prohibitions exist transactions could occur only if a special license had been granted by the President, if the transaction is with Germany, and otherwise with the license of the President or of such person as he may direct. The other chief provisions call for report of property interests held within the United States by persons of enemy nationality, with a possibility that some of the property may be brought into the government's custody and virtually held in trusteeship, and a procedure under which American patents, trade-

marks, and copyrights held by enemy subjects could be worked.

The House had somewhat ameliorated some parts of the original bill. On these points the Senate Committee has usually shown a stricter attitude. It removes the possibility that a neutral doing business in Germany might be allowed to do business simultaneously with the United States, on the theory that his American business and his German business were separate and distinct; the Department of Justice declared that it would be an endless job to try to ascertain if there was any such broad line of demarcation in a man's business affairs. The Committee recognized also that it may be desirable for the President to designate individuals who were born in Germany but have now become citizens of other countries, or who while remaining German citizens are within the United States, as persons with whom other persons in the United States are to have no business transactions, except in accordance with licenses.

The bill before the Senate, however, answers many practical questions regarding which the House bill did not offer very exact guidance. Payments made in good faith since April 6 to a resident agent of an enemy, and not part of a plan for remittance of funds abroad, are stated to be valid. Indeed, American branches of enemy houses are allowed thirty days after the passage of the bill in which to apply for a license to continue in business, and meanwhile their transactions are wholly legal and valid, always provided that there is no transfer of money or other property out of the country on enemy account. Insurance and reinsurance companies with headquarters in Germany are treated similarly. They may apply for a license to maintain their business status. If a reinsurance company is to be refused a license, or its license is to be revoked, reasonable notice is to be given all American companies known to have been doing business with it.

In some other ways the bill now expressly prevents confusion in specific situations. If an American made a contract with a German and, before April 6 and not in contemplation of war, the German had assigned his interest to a person who is not an enemy, the contract may be carried out, if the United States no benefit. A citizen of the United States who is under contract to make deliveries to a German can arbitrate the obligation by giving notice to the Alien Property Custodian, the new official for whom the bill provides. In like fashion, an American who holds security against a German debtor may give to this official such notice as is required before he takes steps to satisfy the debt out of the pledge. If an American creditor finds himself in the position of being secured against a friendly or neutral debtor by property that is in Germany, the statute of limitations will cease to run until the war has ended, and suit cannot meanwhile be entered in American courts,—in other words, there is a moratorium as to such transactions.

Several new features appear in the recommendations of the Senate Committee. Reports may be required, for example, regarding the securities and other property which enemies were known to own in the United States, not merely on the date when the United States declared war, but also on February 3, 1917, the day when the German Ambassador at Washington was handed his passports. This report may be required in order that the

A Valuable Business Asset

INVESTIGATION proves that 30 per cent of credit business pays in full each month; 23 per cent pays in full from one to three months; 40 per cent never pays in full and 7 per cent never pays at all.

SUCH a condition is scarcely a healthful influence on the commercial welfare of any community where it exists. It is admittedly a serious trade handicap.

THE big group, the important group of regular buyers is the thrifty, money-earning people who trade every day and pay cash for what they buy.

THE Premium Industry automatically differentiates between "volume" of business and "value" of business. With the larger percentage on a cash basis, any business is safeguarded.

THE Sperry System of Profit-Sharing through the medium of the famous "S. & H." Green Stamp has earned the good will of the buying public. It places a Premium on prompt payment at so low a cost to the dealer that the policy represents a valuable business asset.

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bona fide character of interim transfers of property may be investigated. At the same time assurance is given that no retrospective action, back of April 6, is contemplated as to any actual and legal transfers.

As another means to facilitate investigations, the President may prohibit any transaction for a period of ninety days. Such a prohibition may be used most frequently in connection with shipments of money abroad. As a matter of fact, new language in the bill clearly indicates that exports of gold and silver, and transfers of credit to foreign countries, are to be scrutinized in order that American resources may not indirectly become a means of support for the enemy.

Perhaps the most novel of the added provisions allows the Federal Trade Commission, when it grants a license to a citizen of the United States to work an American patent controlled by an enemy, to fix the prices for which he is to sell the articles he makes under the patent.

The House is to make its first business in September consideration of a bill which will authorize more bonds than the law of April 24 provides. In April the first bond bill with its authorization for issues of \$5,000,000,000 appeared pretty large. Four months later it seems very modest, especially as under the circumstances \$5,000,000,000 of the total were to go as credits to the countries beside which we are fighting and but \$2,000,000,000 to be available for our own expenditures.

New figures face us. Within the year the Shipping Board expects to spend \$1,385,000,000, the War Department \$7,883,000,000, and the Navy Department \$1,420,000,000. Altogether, our government at present contemplates disbursements on its behalf to a total of \$11,782,000,000. This is greater than the expenditures of England this year on its own account, as its budget calls for \$12,150,000,000 for all purposes, including loans to allies.

The second bond bill, reported September 1 to the House by the Committee on Ways and Means, does not endeavor to make up the difference between the amount to be raised by taxation and our government's own expenditures. That is a subject left for a third bond bill, which will probably come forward in the winter. The main purpose of the bill of September is to supply the money to be advanced to our allies.

Already about \$2,000,000,000 have been advanced. Around \$1,000,000,000 more is available for the allies. On the supposition that their requirements will continue at \$500,000,000 a month,—their present rate,—the bill undertakes to raise \$4,000,000,000 more for them. This will mean advances to our allies of \$7,000,000,000 by July 1, 1917.

England has heretofore been financier for its allies. In the year which ended last March,—i. e., in the twelve months directly preceding our entry into the war,—England supplied \$2,675,000,000 to its allies and dominions. The extent of our program accordingly indicates the degree in which we are forthwith undertaking the financial burden of the war.

SOLDER

¶ The finest mixture of Solder is not necessary for all kinds of work.

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¶ This experience is at your disposal to use as you see fit.

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AN HOTEL OF THE HIGHEST CLASS SPECIALLY
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LEPAGE'S
GLUE
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BOTTLE
SEND IT TODAY 10¢

These new bonds may pay as much interest as 4 per cent. As the law of April allowed a maximum of 3½ per cent, and there are \$3,000,000,000 still

The Interest Rate to be issued under that authorization, the new bill permits a

rate of 4 per cent on these bonds, also, thus bringing the total bonds it contemplates to \$7,000,000,000. In fact, the total is \$7,338,000,000 because of inclusion of some incidental items from the April law, such as the unused Panama-Canal bonds and bonds to meet the expenses which arose in connection with Mexico.

Witzel Lock—Sault Ste. Marie, Michigan

Enjoy Their Benefits Now

Steadily and surely Goodyear Cord Tires are displacing common tires on the cars of discerning motorists.

Steadily and surely their advantages in comfort, mileage, activity and economy are winning wider public approval.

Even now they prevail on America's finest cars as the utmost in quality equipment.

Ere long, we confidently predict, they will prevail on cars of every class, by reason of low final cost.

For though Goodyear Cord Tires are quality tires, they are also extremely economical.

Though they yield greater comfort and freedom from trouble, they also give far greater mileage.

They save heavily in gasoline, and prolong the life of any car by affording it better protection against road-shocks.

Why postpone using them, when you can profitably enjoy their benefits now?

Goodyear Tires, Heavy Tourist Tubes and "Tire Saver" Accessories are easy to get from Goodyear Service Station Dealers everywhere.

The Goodyear Tire & Rubber Co., Akron, Ohio



GOOD YEAR
AKRON
CORD TIRES

The new bill introduces taxation for the bonds it authorizes, but only in so far as the additional federal income taxes

Taxation Of Bonds are concerned. In other words, interest on the bonds will not be subject to state and local taxes, or to the normal federal income tax, whatever its rate may be, but will be subject to federal super-taxes on incomes and war-profits taxes.

If entirely tax-free, a four-per-cent bond is equal to an ordinary ten-per-cent investment to the man with an income over \$1,000,000, according to the new rates of tax proposed by the House in the pending revenue bill, and equal to a five-per-cent investment to a person with income exceeding \$40,000. To a person who pays only the normal tax it is worth 4.08 per cent. If its interest is subject to the super-taxes, its worth is 4.17 per cent to all persons who have to pay such taxes.

The new bill goes on to provide for two matters of transition. In the first place, it authorizes the government to **Certificates And War Savings** finance itself temporarily by short-term certificates of indebtedness at such rates of interest as the Secretary of the Treasury may find necessary. The total may reach \$4,000,000,000. These will be used when, for one reason or another, it is not advisable to take subscriptions for bonds.

They in fact anticipate the proceeds of bonds and facilitate the financial transactions involved in payment for bonds.

The other provision is new in our present legislation. It affords a means of accumulating small savings for war. A person with \$4 to invest will be able to buy a special stamp at a post office, at the same time receiving a book in which to place it. At the end of five years he will be able to redeem the stamp for \$5, thus obtaining his interest and saving the government from the impossible task of paying interest twice a year on great numbers of small amounts. A person who has twenty stamps in his book can make an appropriate exchange for a \$100 bond. In England a similar device, known there as war-saving certificates, is expected to make available to the government this year at least \$50,000,000.

The present estimates of our government for the amounts it will spend on its own account before July 1, 1918, have been \$11,782,000,000. This figure does not include the amounts our government will raise and lend to its allies. With these amounts included, the total money to be obtained will approximate \$19,000,000,000. This is seven billion dollars more than England is raising this year.

Moreover, our figures are not final. We lack provision for a budget statement on behalf

of the government. The Secretary of the Treasury recently reminded the Ways and Means Committee that he has no authority to prepare a budget, being confined to transmitting to Congress the requests for funds he receives from other departments. Under these conditions, knowledge of the government's total expenditures this year will be delayed until next spring.

The second piece of business before the House in September will probably be a bill which aims to make some provisions for **Dependents Of Soldiers And Sailors** vision to meet situations which occur when men take up arms. Reported favorably on August 30, the measure first deals with the situation of dependents. The principle is that every man enlisted in the military and naval forces will be compelled to contribute from his pay not less than \$15 a month for the support of wife and children; to this contribution from pay, which for a soldier is \$33 a month when service is performed outside the United States, the government adds monthly an allowance ranging from \$15 when there is a wife but no children to a maximum of \$50.

If parents, brothers and sisters, or grandchildren are actually dependent, and an enlisted man of his own free will contributes a fixed monthly sum from his pay,—\$10 for a parent, \$20 for two parents, etc.,—the government will allot an equal amount. On account of all dependents of any one enlisted man, however, the government will not allow more than \$50 a month.

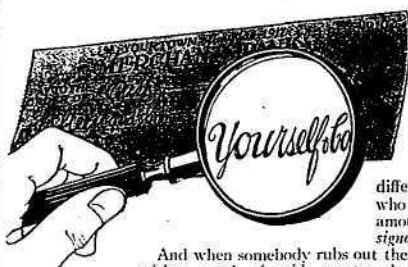
Inequalities among men are bad for discipline and morale in a military force. There are other reasons, too, why men **Savings From Pay** with the same status should be upon an equal footing. Perhaps such considerations have led to a provision in the bill which will allow the Secretary of the Navy, or the Secretary of War, as the case may be, to require that any part of half an enlisted man's pay which is not contributed for dependents should be deposited to his credit and should be paid to him with accrued interest at 4 per cent at such a future time as the conditions of service make appropriate.

In September, 1916, a bill became law which undertakes to grant compensation to employees of the federal government for disabilities they suffer because of injuries they sustain in the course of their employment.

Compensation The theory of this law is that an employee during the period of his complete or partial disability should receive two-thirds of the compensation he would have had if he had been able to perform the duties of his position. The maximum monthly payment for total disability, however, is \$66.67, and the minimum \$33.33. If death results from an injury, monthly payments are to be made by the government to certain dependents, such as 35 per cent of the rate of compensation to a widow, with 10 per cent added for each child, to a maximum of 66 2/3 per cent.

Application of the principle of workmen's compensation to both officers and enlisted men constitutes the second part of the pending bill. If death results to an officer or private from injury that is suffered, or disease that is contracted, in the line of duty, monthly payments are to be made to the dependents he has—25 per cent of his pay to a widow, with the minimum at \$30, fifty per cent to a widow and four children, etc. The maximum, monthly payment is \$200.

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And when somebody rubs out the original amount with a touch of acid— presto—there's your signed check in blank—all ready to be filled in with a false amount.

Protect the amount line from alteration by writing it with

The Protectograph

CHECK WRITER

—FIFTY ONE DOLLARS SIX CENTS

Writes and protects the full amount in the body of the check—a full word to each stroke of the handle—in two colors. Each character is "shredded" into the fibre of the paper and acid proof ink forced through and through the shreds.



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Price \$40

Several models and prices to suit different business requirements.

FREE:

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Todd Protectograph Co., 1174 University Ave., ROCHESTER, N. Y.

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Its message will be of highest significance to all America. For, New Russia's leaders will use it as a vehicle for their personal communications to the American public.

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In case of loss or theft you hold a receipt which guarantees the prompt refunding of your money.

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\$ 2.50	3 cents
5.00	5 "
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50.00	18 "
60.00	20 "
75.00	25 "
100.00	30 "

Over \$100 at above rates

If total disability without death results, the injured man is to receive a monthly payment which is graded according to the number of his dependents, but which is to be 40 per cent of pay, and at least \$40, even if he has no wife or child, and he would have \$20 more if he needed a nurse. If he had a wife and two or more children he would be entitled to 60 per cent of his pay, and not less than \$75. The maximum monthly payments could not in any case exceed \$200. For partial disability payments are arranged on a smaller scale, but according to the same principle.

The third part of the bill in effect provides government insurance against the risks of war to life. The plan is that Insurance within 4 months of entry upon military or naval service an officer or private may apply to the government Bureau of War Risk Insurance for life insurance, obtain a policy of term insurance for \$1,000 to \$10,000, and pay a premium determined by the rate of mortality under peace conditions with interest reckoned at 3½ per cent. This means that the government itself would assume the cost of the extra hazard caused by the war, and the person insured would pay the net cost of peace-time insurance. The annual premium would vary with age, but the average for men between 21 and 31 years of age would be in the vicinity of \$8 a thousand dollars of insurance.

It is part of the plan that officers and men who take out term insurance during the war should have an opportunity after the war to convert their policies into such other forms as the government might then decide to issue, and continue to carry this insurance with the government. Any men who after the war enter naval or military service would also be able to obtain insurance, within the limits of the bill.

Cost of Plan The expenditures of the government which are estimated under the bill as before the House are:

	First Year	Second year
Family allowances.....	\$141,000,000	\$194,000,000
Death indemnities.....	3,700,000	22,000,000
Compensation for total disability.....	5,250,000	35,000,000
Compensation for partial disability.....	3,200,000	21,000,000
Insurance against death and disability.....	23,000,000	112,500,000
Total.....	176,150,000	380,500,000

Insurance against the risks of war is not altogether new with the government. In September, 1914, a bill became law which caused a bureau of the Treasury Department to write insurance upon American vessels and their cargoes against the risk they would be lost by reason of acts of war among belligerents. It has issued policies which aggregate almost \$800,000,000.

A bill which became law on June 12, 1917, allows the government's bureau to insure also the lives of officers and seamen on American vessels, to provide for their indemnification if they are injured, and to grant compensation for any time during which they are kept captive by the enemy. The insurance of life is in sums ranging between \$1,500 and \$5,000, according to the earnings of the insured.

AUGUST 27, 1917

CHAMBER OF COMMERCE
OF THE
UNITED STATES OF AMERICA
4015 BUILDING
WASHINGTON, D. C.

WAR BULLETIN No. 16

Reduce The Coal Requirements

- 1—Inquire Into the Methods Employed by Your Fireman and Consider His Methods in Relation to Those Suggested by the Bureau of mines.
- 2—Learn What Plants in Your Locality Secure the Best Results From Coal.
- 3—Endeavor to Have the Wasteful Users of Coal Profit by the Best Experience of the Locality.

EVERYBODY may be assumed by this time to realize the necessity for saving coal.

What American manufacturers probably do want to know now is where to get the men who can actually save coal for them.

It may be interesting, therefore, to manufacturers generally to know that the Power Plant Management Service of the Fuel Engineering Company is serving manufacturers in more than 60 lines of industry—and cutting down their use of coal by 16 to 20 per cent.

The Fuel Engineering Company is the only institution of its kind in the world—maintaining a complete organization of trained-engineers whose business for nearly ten years has been helping American manufacturers to secure the more productive use of coal in their power plants.

Owing to the remarkable increase in the demand for this service together with the scarcity of trained men, we are obliged at this time to accept contracts only from manufacturers whose plants are located in the Eastern States.

If you are interested, write for full particulars—stating the kind of coal used and the amount consumed annually.

Fuel Engineering Company of New York
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1907-1917

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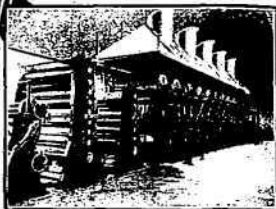
But you will find that Fatima has already become more popular with such men than any other cigarette regardless of price.

This is because men who choose wisely want a SENSIBLE cigarette—a cigarette that is cool and comfortable to the tongue and throat and that leaves a man feeling "fit" and clear-headed even though he may smoke more often than usual.

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A Sensible Cigarette



Modern Machines Like These Are Meeting the Demand of Thousands

Only the most modern machinery, exceptional facilities, and the best labor we can obtain, are capable of meeting the present unequalled demand which we are called upon to meet. Ten big paper mills are working night and day to supply our box factories with the CORRUGATED FIBRE BOARD from which our boxes are made. These illustrations show portions of the 1,000,000 square feet of floor space, every inch of which performs its duty in protecting our customers and insuring the quality and quantity of their box supply. Hinde & Dauch patrons have learned to depend upon our immense and constantly increasing facilities for an unfailing supply, and upon our special manufacturing processes for the "H & D Quality" which protects them against loss and damage to their shipments. These customers don't have to worry about shortage or inferior boxes, no matter how the box market turns. They know what provisions have been made for them—what quantities of material have been stored—what new facilities provided. They stand out for selected "H & D Quality" whether boxes are cheap and plenty or scarce and dear. They always have the satisfaction of knowing that their product will be shipped safely in boxes made of

Hinde & Dauch
Corrugated Fibre Board



The Hinde & Dauch Paper Co.
304 Water Street, Sandusky, Ohio



We "Dig In"

(Concluded from page 10)

What is not generally realized is that Government action merely anticipated what would have come about in a natural way probably in the near future. Unduly high prices always bring their own cure by overstimulating production and curtailing demand.

The Zinc industry during the last twelve months is a case much in point. It was only a question of time, and apparently not a very long time, when these cases would multiply and influence the course of general business. What we are now confronted with is the possibility of a new experience in our economic history, especially in contradistinction to that which marked prosperous times in the past. Formerly when prices declined, demand also halted and fell off, and it was a down-hill grade for the commercial world for many weary years. It may not be so with us now, and indications point strongly to the reverse so long as the war lasts. There may be a somewhat, though not materially, lower level of prices in many commodities, but still accompanied by that business activity which is being unnaturally stimulated by war's demands. Moreover, in such a situation it is most fortunate that our business structure is built upon the rocks of great harvest yields, which spell prosperity in the all important agricultural sections, and a currency system at once sound and elastic. The great industry of transportation, second only to agriculture in its importance, is doing passing well for the time being. Moreover, it is intelligently and efficiently operated with a common purpose of service to the country, such as before it never knew, and of which the country unfortunately has but scant knowledge and appreciation.

Lumber is very busy in most sections, save where interrupted by strikes; though construction and development enterprises are not so much in evidence; but most of all and best of all, and most promising of all is the sober, constructive spirit of accomplishment among the people throughout the small cities and towns and in the vast countryside. Everywhere local pride is stirring and taking definite form in the way of local improvement, of local progress, not only materially but likewise in the ways of increasing intelligence and better methods of education. These widespread, though humble happenings of accomplishment and advance, are creating a universal national foundation of wealth and wellbeing which are once more the story of Little Drops of Water and Little Grains of Sand.

Drafting the Box Car

(Continued from page 7)

It is also planned to advance the closing hours for some of these new through merchandise-cars on their respective "sailing-days." Tradition has made 4.30 o'clock in the afternoon the closing for freight-house doors—at least in the New York and Philadelphia metropolitan districts. Most of the through cars under the new schedule will "sail" at that hour. But rough drafts of the first working time-tables for the new plan show me that some of the cars will close and leave at earlier hours—some even as early as 2.00 o'clock in the afternoon. Even in this measure, the various zones of Philadelphia will be kept to their absolute parity. The sailing hour for a car to any given city will be the same hour from each of the zones.

By this measure the Pennsylvania hopes



Answering the Nation's Call

IN this "supreme test" of the nation, private interests must be subordinated to the Government's need. This is as true of the telephone as of all other instrumentalities of service.

The draft for war service which has been made upon the Bell System is summarized in a recent Government report.

Government messages are given precedence over commercial messages by means of 12,000 specially drilled long distance operators all over the country.

The long distance telephone facilities out of Washington have been more than doubled.

Special connections have been established between all military headquarters, army posts, naval

stations and mobilization camps throughout the United States.

More than 10,000 miles of special systems of communication have been installed for the exclusive use of Government departments.

Active assistance has been given the Government by the Bell System in providing telephone communications at approximately one hundred lighthouses and two hundred coast guard stations.

Communication has been provided for the National Guard at railroad points, bridges and water supply systems.

A comprehensive system of war communication will be ready at the call of the Chief Signal Officer, and extensive plans for co-operation with the Navy have been put into effect with brilliant success.

As the war continues, the demands of the Government will increase. And the public can help us to meet the extraordinary conditions by putting restraint on all unnecessary and extravagant use of the telephone.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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One Policy

One System

Universal Service

DELEGATES TO THE WAR CONVENTION!

In regard to that report which you are to prepare for the organization you represent:

LET THE NATION'S BUSINESS DO THIS FOR YOU!

The October number will cover the entire convention in detail from beginning to end. It is well nigh impossible for you to prepare as complete a report; it is an unnecessary waste of time to duplicate any part of it. Instead, send us your order for as many copies as you need. Price: 25 cents per copy; 20 or more, 20 cents each.

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AMERICAN Labor and the American Farmer have long spoken with voice of authority. They are nationally organized. Beside them the conflicting tongues of miscellaneous groups of American Business made timid and unimpressive appeals.

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Whatever of prestige, influence and rapid growth the National Chamber has to its credit is due primarily to the confidence which its members, the public and the government at Washington have in the integrity, ability and unselfishness of its leadership.

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gradually to eliminate at least some of the time and temper-taking congestion that comes to the average freight-house at a little after 4.00 o'clock. The congestion of trucks and drays at its team-doors is bound to be reduced in larger measure in the congestion and confusion within. Men work at top speed and with large percentages of breakage and error — for most of the freight must be weighed and checked and way-billed before it can be sent out to the waiting cars. Big trucking concerns, of the cities who serve such manufacturers as do not possess their own sidings, are coming more and more to work on schedules, hardly less definite and exact than those of the railroad itself. It is upsetting to their schedules, to say nothing of their pay-rolls, to have their trucks standing around at a station door until long after 7.00 o'clock in the evening. And it is still more upsetting and demoralizing to the freight-house.

HERE, then is definite efficiency—definite efficiency walking, if you please, hand in hand with cooperation. For the Pennsylvania has moved carefully as well as promptly. It sought the interest and help, not only of the

boards of trade and the chambers of commerce within its territory before it began working out the details of its plan, but the individual manufacturers themselves. It did not overlook the very important point that all communities of equal size and importance and manufacturing power must be kept on a parity—just as the Philadelphia zones are given an equal footing. Richmond, Va., must have as good a service from the City of Brotherly Love as Norfolk, and Norfolk quite as good as Richmond.

It has been said—and with a good deal of truth—that only a railroad as dominant in its territory as the Pennsylvania could place such a radical program into effect. A weaker road, a road surrounded by many competitors as strong if not stronger than itself, might have hesitated at it. But the Pennsylvania folks knew first that they were right and then that the war crisis would have justified a far less efficient and reasonable plan. For after all its real answer is expressed in but a single phrase—the release of the many hundreds and even thousands of box-cars at a time when there is a great dearth of these humble, useful vehicles.

WITH other roads falling in line behind the Pennsylvania—already I see a rapidly growing list—on the "sailing-day" plan, with many of them working with all their energy and resources toward the devising of similar car-saving and car-leasing plans, the heart of the shipper ought to lighten. The problem of the box-car—his box-car problem, if you please, is not beyond solution. And even if the forthcoming fall and winter are hard upon transportation, hard alike upon the railroads and their patrons, the future is far from hopeless.

A little thought, a little energy, a great deal of cooperation, the conserving of time and temper and Mr. Shipper ought to be able to see it through. The box-car is not going to be denied him. But he must make prompt and careful use of it. It is far too great in national importance to be subjected either to delay or abuse.

Who Is Hurley?

(Continued from page 12)

in his narrative, emphasized with smiles and no bitterness, as surely would not have been the case had Mr. Hurley been an indolent youth and a failure as a man.

By and by, Edward Hurley, still industrious and reliable, was transferred to a suburban train, running between Chicago and Downers Grove. Hadlock was his engineer. A crank, men called him. He had trained "Dutch" Kogel and "Dutch" Kogel spoke of Hurley, after Hadlock had tried five firemen in five weeks.

Hurley, going from a switching engine to a passenger engine, was jumped over the heads of several hundred men. There is a story in that but no space for it in this article. Tyler succeeded Hadlock in the Downers Grove local, which, having many stops and several hills to climb, was never on time.

One day, Hurley sleeping, there was a knock on his door. "Call," cried the boy in the hall. "You are to take out 73."

Hurley had been a fireman for one year and nine months. "Seventy-three" was the local to Downers Grove. To take it out meant that he was to run the engine and not shovel its coal.

Half awake, Hurley denied the accuracy of the boy and his summons. "Tyler broke his engine and was hurt," the boy further explained, "and you are to take his run."

Thus, at twenty-one, Hurley acted as an engineer for the first time. On that day two stations, contrary to custom, showed no flag: The train, not stopping, lost no time. For once, it reached the yards at the edge of Chicago, on its almost forgotten schedule.

Engineers and firemen, thence along the tracks to the city station, watched the train. They all knew that Hurley was on the engine. And most of them had believed that he would pull into Chicago away behind his time. But he didn't.

"Don't tell anyone that we ran past two stops," the fireman advised, as Hurley shut off the steam and began applying the brakes. "Let them find it out for themselves."

There was glory for Hurley in that first run, and it was talked about at the crossings, signal stations and roundhouses up and down the tracks. "But I never was on time again," he told the writer. "It wasn't in the engine."

An engineer, on occasion, called to the cab through an accident, Hurley remained one, being the youngest, perhaps, in years and service of any in the United States. He was running the Downers Grove local when the great Burlington strike occurred in 1888. A



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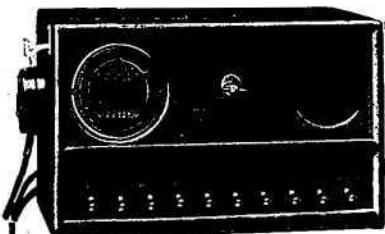
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